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UNIVERSITY OF ALBERTA

THE SOCIAL FUNCTIONING OF BULIMIC AND NON-BULIMIC WOMEN

BY

CRYSTAL R. COOLICAN

A thesis submitted to the Faculty of Graduate Studies and Research in partial fulfillment of the requirements for the degree of

MASTER OF EDUCATION

IN

COUNSELLING PSYCHOLOGY

DEPARTMENT OF EDUCATIONAL PSYCHOLOGY

EDMONTON, ALBERTA

FALL 1994

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The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research for acceptance, a thesis entitled: The Social Functioning of Bulimic and Non-Bulimic Women, submitted by Crystal R. Coolican in partial fulfillment of the requirements for the degree of Master of Education in Counselling Psychology.

Dr. Robert Frender (Co-Supervisor)

Dr. Rosemary Liburd (Co-Supervisor)

Dr. Leonard Stewin

Dr. Dianne Kieren

DATE: September 27, 1994

DEDICATION

With great respect and love, I dedicate this thesis to

my parents, Denis and Evelyn Coolican,

and

David Morrow

ABSTRACT

Bulimia, an eating disorder of increasing prevalence and of significant health concern, is characterized by episodes of binge eating followed by self-induced vomiting, fasting, overexercising, or abuse of laxatives and diuretics. In their pursuit to better understand bulimia, several researchers have examined the psychological and psychosocial characteristics of bulimic women. One particular area of research has focused on investigating the association between bulimic symptoms and social adjustment. Social adjustment has been broadly defined as "the interplay between the individual and the social environment" (Weissman, 1975, p. 357). The purpose of the current study was to replicate previous research by examining whether women classified as bulimic would report significantly more social maladjustment than women classified as non-bulimic. A secondary purpose of the study was to extend previous research by determining whether this difference in social functioning between bulimics and non-bulimics would hold true for healthy weight women as well as for overweight and underweight women. The bulimic group in this study consisted of 25 women between the ages of 18 and 30 who met the criteria for bulimia as measured by the Bulimia Test - Revised (BULIT-R). The non-bulimic group consisted of 25 women who were age-matched to the bulimic group and who did not meet the criteria for bulimia. All participants were asked to complete a demographic

questionnaire, the BULIT-R, and the Social Adjustment Scale - Self-Report (SAS-SR). Results indicated that the bulimic group was significantly more socially impaired on the global scale of the SAS-SR as well as on the occupational, social/leisure, extended family, marital, and family unit subscales. The nature of the relationship between bulimic status and overall social functioning was the same for the underweight, healthy weight, and overweight subgroups. Additional findings supported that bulimic women had more extreme weight-related behaviors than non-bulimic women. Future research should aim to answer the causal question of whether social maladjustment predisposes an individual to develop bulimia, or whether bulimic symptoms result in social impairment. Depending on which perspective one subscribes to, this study has important applications for either treatment programs or for preventive programs.

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CHAPTER I

Introduction

Bulimia has been identified as a chronic and seriously debilitating eating disorder, which is characterized by episodes of binge eating followed by self-induced vomiting, fasting, overexercising, or abuse of laxatives and diuretics. Predominantly a female disorder, it is estimated that bulimia occurs in 1 to 2% of females in the age range of 18 to 30, although estimates among college populations have ranged from 4.1% to 13% (Halmi, Falk, & Schwartz, 1981; Pyle, Mitchell, & Eckert, 1983). Several studies (e.g., Halmi et al., 1981; Pope, Hudson, Yurgelun-Todd, & Hudson, 1984) have indicated that the prevalence of bulimia is rapidly increasing, making it a significant area of public health concern.

Over the past two decades, this disorder has become more familiar to health professionals and the general public as a result of its increased prevalence and the influx of reports regarding maladaptive eating behavior in the psychological and popular literature. The attention bulimia has received in recent years may give the impression that this is a disorder of relatively recent origin; however, historical antecedents of bulimia can be traced back to the late 1800s when bulimic symptoms such as binge eating were observed in other syndromes. Early case studies described bulimia in relation to anorexia nervosa (Gull,

1874), diabetes mellitus (Osler, 1892), and malaria (Soltman, 1894). Bulimic behaviors were also described in young girls who were separated from their families to live in boarding schools (Soltman, 1894). More detailed accounts of bulimic behaviors began to emerge around the 1940s (e.g., Bond, 1949; Nicolle, 1939). Although most of these reports discussed bulimic symptoms as they related to anorexia nervosa, bulimic behaviors were also described among a non-anorexic population of refugee children and adolescents (Selling & Ferraro, 1945).

In a pivotal article published by Gerald Russell in 1979, the term bulimia nervosa was coined to describe a clinical sample of 30 patients with bulimic symptoms. This article also proposed the first diagnostic criteria for the disorder. Shortly thereafter, the American Psychiatric Association (1980) recognized bulimia as a distinct syndrome and published criteria for its diagnosis. Since that time, there has been a strong emphasis on conducting basic research to increase our knowledge of this disorder.

In their pursuit to better understand bulimia, a number of researchers have examined the psychological and psychosocial characteristics of bulimic individuals. One particular area of research has focused on investigating the association between bulimic symptoms and social adjustment. Social adjustment has been broadly defined as "the interplay between the individual and the social environment" (Weissman, 1975, p. 357). Social

maladjustment is thought to occur when an individual's functioning in any or all of the roles s/he assumes is not seen as conforming to the norms of that individual's referent group (Weissman, 1975). Researchers exploring this area have found that social maladjustment is commonly associated with bulimia, and often tends to be more disruptive than the bulimic individual's maladaptive eating behavior.

Whether social maladjustment predisposes an individual to develop bulimia or whether bulimic symptoms are responsible for impairment in social functioning has yet to be determined. However, it is my opinion that the latter is the case based on clinical observations cited in the literature and on personal observations.

Purpose of the Study

The purpose of the current study was to determine whether women classified as bulimic would report significantly more social maladjustment than women classified as non-bulimic. Thus, this study replicated previous research in the area. The major research hypothesis was that:

> Females between the ages of 18 and 30 who were classified as bulimic according to a measure that conformed to criteria of the revised third edition of the Diagnostic and statistical manual of mental disorders (DSM-III-R) (American Psychiatric Association, 1987) would report greater social maladjustment

on a global measure of social functioning than would age-matched females who were classified as non-bulimic. This difference in overall social functioning between bulimic and non-bulimic women was expected to be consistent across age, marital status, occupational status, and level of education.

A secondary purpose of the study was to determine whether this difference in social functioning between bulimics and non-bulimics would hold true for healthy weight women as well as for overweight and underweight women. In this way, the study provided an extension of previous research.

Significance of the Current Research

Given the complexity, debilitating nature, and increasing prevalence of bulimia, research that leads to a better understanding of this disorder is greatly needed. Research focusing on the psychological and psychosocial characteristics of bulimic individuals has increased knowledge about the association between bulimic symptoms and personality attributes of bulimics. An important area of study within this research domain has involved investigating the association between bulimic symptoms and social functioning. Studies demonstrating that bulimic individuals typically report more social maladjustment than non-bulimic individuals have helped to broaden our understanding of the psychosocial features of this disorder. The current research study was significant in that it examined an important area of

study within a serious disorder, and attempted to expand the current status of knowledge in this area by building in weight status as another independent variable.

Organization of the Report

In Chapter II, a brief review of related literature is presented, and the research hypotheses that follow from this are stated. Chapter III provides an explanation of the research design and methods used in this study. A summary of the results is presented in Chapter IV. Chapter V offers an evaluation and interpretation of the research findings, along with a discussion of the limitations, implications, and applications of this research.

CHAPTER II

Related Literature

This chapter is intended to be a review of literature that provides the setting for the hypotheses of this comparison study. As an essential first step, it is important to understand the way in which bulimia is presently conceptualized. Thus, in the first section of this chapter, a multifaceted definition of bulimia will be provided. Following from this discussion will be a section on weight-related symptoms/behaviors in bulimia. A brief definition of social functioning will be provided, and then the current status of research pertaining to social functioning in bulimia will be presented. Here, the major research findings in this area will be discussed, and the methods used will be critically evaluated. Finally, the way in which the present study has addressed the shortcomings of the previous research will be presented. The hypotheses for the present study will follow from this discussion.

Bulimia

Diagnostic Criteria for Bulimia

As currently defined in the DSM-III-R manual (American Psychiatric Association, 1987), the essential criteria for the diagnosis of bulimia include: (a) the recurrent consumption of a large amount of food during a discrete time period; (b) the feeling of not being in control of one's eating behavior during

the binge episodes; (c) the use of self-induced vomiting, laxatives/diuretics, strict dieting/fasting, and/or vigorous exercise as methods of weight gain prevention; (d) a minimum average of two binge episodes per week for at least three months; and (e) a persistent overconcern with one's body shape and size.

Demographic Information

Bulimia usually begins in adolescence or early adult life. A review of research studies has indicated that age 18 is the most common age of onset (Schlesier-Stropp, 1984). Research has identified the typical bulimic patient as a single, white female in her early twenties who is well educated and of average weight for her height (Johnson, Lewis, Love, Lewis, & Stuckey, 1984). Although most people with bulimia are within a normal weight range, some may be slightly underweight, and others may be overweight. Of a clinical sample of 40 bulimic women, 25 were of normal weight, 12 were underweight, 2 were overweight, and 1 was obese (Mitchell, Pyle, & Eckert, 1981).

Prevalence and Sex Ratio

Using strict DSM-III-R criteria, it is estimated that bulimia occurs in approximately 1 to 2% of females in the age range of 18 to 30. This disorder is rarely encountered in males, although some exceptions have been noted (e.g., Schneider & Agras, 1987).

Binge-Eating Behavior

During a binge episode, the bulimic individual consumes food that is often high-calorie, sweet tasting, and easily ingested, with a texture that facilitates rapid eating. This food is usually eaten surreptitiously in an episode that can last from minutes to hours (Pyle et al., 1981). A binge is generally terminated by abdominal discomfort, sleep, social interruption, or self-induced vomiting. Vomiting reduces the physical pain of abdominal distention, which allows for either continued eating or termination of the binge. Sometimes "vomiting itself may be desired, so that an individual will binge in order to vomit, or will vomit after eating only a small amount of food" (American Psychiatric Association, 1987, p. 67). Although eating binges can be intensely pleasurable, the bulimic individual often experiences self-deprecating thoughts, guilt feelings, and a depressed mood following these episodes.

Concern about Weight

Bulimic individuals invariably express great concern about their weight and repeatedly attempt to control it by vomiting, dieting, fasting, overexercising, or using laxatives and/or diuretics. So persistent is this overconcern about body shape and size that many bulimic individuals report that their lives are dominated by conflicts about eating. Individuals with bulimia generally express an exaggerated fear of becoming obese, display

high levels of body dissatisfaction, and hold distorted images of their bodies (i.e., they see themselves as being heavier than they actually are) (Garfinkel et al., 1992; Pyle et al., 1981). When asked to indicate their desired weight, bulimic women typically aspire to weigh less than their current weight, and often wish to weigh below the minimum for their height (Drewnowski, Yee, & Krahn, 1988; Pyle et al., 1981).

Course of the Disorder

According to clinic samples, bulimia appears to be a chronic disorder, which often takes an intermittent course over a period of many years. The binges usually alternate with periods of normal eating, or with periods of normal eating and fasts. However, in extreme cases "there may be alternate binges and fasts, with no periods of normal eating" (American Psychiatric Association, 1987, p. 68).

Impairment and Physical Complications

The DSM-III-R manual (American Psychiatric Association, 1987) notes that with the exception of a few bulimics who spend their entire day engaged in the binge-purge cycle, bulimia is seldom incapacitating. Physical complications of the disorder include electrolyte imbalance and dehydration, which may result in cardiac arrhythmias and, occasionally, sudden death. Bulimics who vomit may suffer from dental erosion, parotid gland swelling, salivary gland infections, kidney disease, stomach cramps, ulcers, hiatus

hernia, and muscle spasms (Saunders, 1985). Rare physical complications include esophageal tears and gastric ruptures.

Associated Psychological and Social Problems

In addition to the specific symptoms associated with bulimia, individuals with this disorder have often been shown to have several other associated psychological and social difficulties, including: depression; low social self-esteem; excessive feelings of guilt; isolation; feelings of helplessness and loss of control; anxiety; demoralization; inadequate stress management skills; substance abuse (frequently involving sedatives, amphetamines, cocaine, or alcohol); family conflict; theft; and obsessive preoccupation with food (American Psychiatric Association, 1987; Mitchell & Pyle, 1982; Rosen, 1987; Saunders, 1985). Bulimic patients often report that their eating disorder "affects their daily activities and work relationships and occupies much of their thoughts" (Saunders, 1985, p. 608).

Predisposing Factors for the Development of the Disorder

As with most complex behavior disorders, there is likely no single cause of bulimia. Rather, several interacting biological, familial, sociocultural, and personality risk factors have been proposed. The following will provide a brief synthesis of how each of these factors is seen to predispose individuals to develop the disorder.

Biological factors. There is no clear consensus as to the contribution of biological factors to the development of bulimia. Although abnormalities of the endocrine system have often been observed among bulimic patients, these are likely side effects from the bulimic behaviors rather than contributing factors to developing the disorder (Johnson & Connors, 1987). At present, the association between biological factors and the onset of bulimia remains controversial. However, there is some agreement among researchers and health practitioners that "young women who are at risk for developing bulimia appear to have a biological vulnerability to affective instability" (Johnson & Connors, 1987, p. 149). Specifically, these individuals seem vulnerable to severe mood fluctuations, including anxiety, depression, irritability, fatigue, restlessness, and agitation (Johnson & Connors, 1987).

Familial factors. A growing body of research that examines the association between specific family characteristics and bulimia is emerging in the psychological literature. Johnson and Flach (1985) employed the Family Environment Scale (FES) (Moos, 1981) to compare a group of bulimic outpatients to a non-bulimic group of women. Results indicated that compared to the non-bulimic group, the bulimic women perceived that their families: (a) were less supportive and helpful; (b) discouraged assertiveness or independent behavior; (c) experienced a great

deal of conflict and hostility; and (d) discouraged open, direct expression of feelings. Ordman and Kirschenbaum (1985), who used the FES and Family Adaptability and Cohesion Evaluation Scales (FACES) (Olson, Bell, & Portner, 1978), also found that bulimic women perceived less cohesion and expressiveness, more conflict, and less emphasis on self-sufficient behavior in their families compared to non-bulimic women. Similar results were reported by Waller, Slade, and Calam (1990) using FACES II, and by Kog and Vandereycken (1989) using a researcher-developed self-report instrument along with behavioral measures. Contradictory findings were reported by Kent and Clopton (1992) who found that bulimic women in a nonclinical setting did not report more family conflict or less caring from their parents than did non-bulimic women. To help account for their results, these researchers suggested that "the pathological family interaction patterns found in previous research on bulimia may have been a result of the fact that the bulimics were in treatment for their bulimia" (p. 290).

In a study by Dolan, Lieberman, Evans, and Lacey (1990), bulimic women reported greater marital disharmony between their parents than did non-bulimic women. In addition, the bulimic women reported a poorer relationship with their parents than did the non-bulimic women, and specifically indicated that their parents were inattentive and uninterested in their activities, and were also reserved and unemotional.

Sociocultural factors. Because of the increased prevalence of bulimia among a rather homogeneous cohort (i.e., 18 to 30 year-old, middle- to upper-class, Caucasian, college-educated women in westernized nations), there is undoubtedly more to the development of bulimia than can be explained by simply biological or familial factors. As a result, an examination of the broader sociocultural context is needed.

Feminist philosophy provides some important insights into the association between sociocultural factors and the development of bulimia. A central assumption of feminist philosophy is that the psychological problems women face are a reflection of the contextual position that women have in society. Thus, the external societal environment is always important to consider when trying to understand the evolution and sustenance of a problem such as bulimia at any particular point in time. Susie Orbach addresses this issue in her book, Fat is a feminist issue, and asserts that:

> Feminism insists that painful personal experiences derive from the social context into which female babies are born, and within which they develop to become adult women. The fact that [bulimia] is overwhelmingly a woman's problem suggests that it has something to do with the experience of being female in our society. (1988, p. 5)

The experience of growing up female in this society involves being subjected to the cultural pursuit of thinness. During the mid-1960s, a cultural preoccupation with thinness and avoidance of obesity for women began to surface. Consequently, over the past three decades the ideal body size for women has become slimmer (despite trends toward higher averages for weight due to better nutrition), resulting in an idealized body style that is biogenetically impossible for all but a minority of women to attain. Our cultural preoccupation with thinness has also enabled the diet industry to flourish as the number of women dieting (mainly for cosmetic reasons) has increased substantially. As a result, "the economy has much to gain from women as consumers, and much to lose if women both understand and become part of the system" (Rothblum, 1993, p. 62). Similarly, it has been suggested that the media would have a great deal to lose if women stopped being influenced by their messages, which perpetuate stereotypes about physical appearance and norms for attractiveness (Rothblum, 1993).

The emphasis placed on thinness in our society has likely influenced women to pursue maladaptive behaviors and attitudes regarding food and body shape in their attempts to attain the idealized thin body type. As Susie Orbach points out:

> Every woman is continually confronted with images of slimness and trimness and advice on how to eat sensibly, lose weight

> and have a happy life. . . . Women are especially susceptible to these demands to lose weight because they are brought up to conform to an image of womanhood that places importance on body size and shape. We are taught that we must both blend in and stand out -- a contradictory message indeed. (1988, pp. xvii-xviii).

Personality factors. Although sociocultural factors facilitate our understanding of how bulimia may develop, it is important to remember that not all women who have been exposed to these factors have developed bulimia. Thus, personality factors may also contribute to the development of the disorder. Research has identified several personality features of bulimic women, including: (a) low self-esteem; (b) a lack of confidence in interpersonal situations; (c) sensitivity to rejection; (d) perfectionist tendencies; (e) self-consciousness; (f) competitiveness; (g) a drive to achieve goals; and (h) difficulty with identifying and articulating internal states (Johnson & Connors, 1987).

In summary, because the studies in this section are correlational in nature, the causal relationship between bulimia and biological, familial, sociocultural, and personality factors cannot yet be determined. However, given the complexity of this eating disorder, it is expected that even with further research, no one factor will be identified as the primary contributing cause

of the development of bulimia. Thus, a multifactorial causal network is more likely the case.

Weight-Related Symptoms/Behaviors in Bulimia

Weight Fluctuations

Although the DSM-III-R does not include frequent weight fluctuations as part of its essential criteria for a diagnosis of bulimia, it is not uncommon for people with bulimia to experience frequent weight fluctuations (often of ten pounds or more) due to alternating binges and fasts. Pyle and colleagues (1981) reported that 11 of 34 bulimic patients in their study had experienced weight changes (gain or loss) of at least 33 pounds since the onset of the bulimia, which could not be accounted for developmentally.

Frequency of Weighing Behavior

A common side effect of the bulimic individual's chronic preoccupation with dieting is her ritualized behavior around body measurement (Johnson & Connors, 1987). It is not uncommon for a bulimic individual to monitor her body size by frequently weighing herself. As a result, this weighing behavior "can become highly ritualized and quite debilitating" (Johnson & Connors, 1987, p. 160).

Social Functioning

Weissman (1975) broadly defines social functioning/adjustment as "the interplay between the individual and the social

environment" (p. 357). During the course of one's life, one often functions in a variety of major roles, including the following: occupational role; marital role; parental role; role within a family unit; role within an extended family; and role within the community. Thus, social functioning reflects not only the individual's interpersonal relations, but also his/her role performance and feelings of satisfaction about the roles. Assuming one or more of these roles is generally accepted as appropriate in our society, and an individual is seen in relation to the way his/her performance in a role conforms to the norms of his/her referent group (Weissman, 1975). Conversely, social maladjustment is thought to occur when an individual's functioning in any or all of the roles s/he assumes is not seen as compatible with the referent group's norms.

These major roles are related to one's age and may also be affected by psychopathology (e.g., a schizophrenic individual may not be able to assume the occupational role). There is some debate over the extent to which psychopathological symptoms are related to social functioning. In addressing this issue, Weissman (1975) points out that although psychopathological symptoms and social adjustment may overlap, "they may also be relatively independent, e.g., some persons can function reasonably well although symptomatic, and others may function poorly although asymptomatic" (p. 357). Thus, symptoms reflect internal physical

or psychological states that may or may not affect one's social relations. In an attempt to resolve this issue, it has been suggested that psychopathological symptoms and social functioning be measured separately. Research that investigates the relationship between symptoms and social functioning helps to broaden our understanding of how psychiatric disorders occur within a social system, and increases our awareness of how an individual's "family life, friendships, and work patterns may have an impact on treatment and course" (Weissman, 1975, p. 357).

Relationship Between Bulimia and Social Functioning

Although the DSM-III-R does not include social maladjustment as one of the essential features for the diagnosis of bulimia, it is often reported by bulimic individuals (Herzog, Borus, Hamburg, Ott, & Concus, 1987; Herzog, Keller, Lavori, & Ott, 1987; Herzog, Norman, Rigotti, & Prepose, 1986; Herzog, Prepose, Norman, & Rigotti, 1985; Johnson & Berndt, 1983; Mitchell, Hatsukami, Eckert, & Pyle, 1985; Norman & Herzog, 1984, 1986). Social maladjustment is thought to be "associated with an excessive preoccupation with food and with the isolation that ensues from the often embarrassed and secretive attitude toward food-related symptoms" (Norman & Herzog, 1984, p. 444). Maintaining that the bulimic individual's social impairment may be more disabling than the individual's maladaptive eating behavior, Herzog, Keller, Lavori, and Ott (1987) assert that: "This is particularly true

since the areas affected, including the ability to develop and sustain healthy functioning in work, family, friendship, and sexual relationships, are of primary importance in late adolescence and early adulthood" (p. 741).

Synthesis of Research Findings

Researchers studying the social adjustment of bulimic individuals have relied almost exclusively on the widely used and psychometrically sound Social Adjustment Scale - Self-Report (SAS-SR) (Weissman & Bothwell, 1976) to measure global social functioning and to assess social functioning in six major social areas, including: occupational role; social and leisure activities; extended family role; marital role; parental role; and family unit role. The SAS-SR was employed by Herzog and colleagues (1986) in their investigation of social functioning in a large sample of female graduate students. The researchers found that the women in their sample who were identified as bulimic reported significantly more social maladjustment than their non-eating disordered peers in the areas of work, social/leisure activities, extended family, and overall adjustment. Similar findings were reported in a sample of bulimic patients who had sought hospital treatment (Herzog, Keller, Lavori, & Ott, 1987), and in a sample of female medical students (with the exception of social functioning in the extended family area) (Herzog et al., 1985).

In summary, the results from studies investigating the social adjustment of bulimic individuals using the SAS-SR have been fairly consistent in that bulimic subjects have tended to report higher levels of global social maladjustment than non-bulimic subjects. However, while these findings have been frequently reported, the research in this area is not without its shortcomings.

Problems with the Previous Research

Unsuitable comparison group employed. Although several studies have employed the SAS-SR to examine the social functioning of bulimics, normative data for the SAS-SR described by Weissman, Prusoff, Thompson, Harding, and Myers (1978) were obtained from a normal community sample, which has often been shown to be demographically different from bulimic samples. Researchers, such as Johnson and Berndt (1983), who have compared the SAS-SR scores of bulimic women with those of the community group, have reported that the normal comparison group was somewhat older and from a lower socioeconomic position than the bulimic group in their study. Thus, it is somewhat difficult to ascertain whether the significant social differences found between the two groups on all the SAS-SR subscales were attributable to differences in bulimic status (i.e., bulimic vs. non-bulimic) or to differences on demographic variables.

Herzog, Keller, Lavori, and Ott (1987), who did not employ the community sample as their comparison group, explained their rationale as follows:

> Bulimic women are often adolescents and unmarried young adults . . . , whereas the normative data on the SAS-SR derive from a community sample of women who are mostly housewives, and are substantially older than the bulimic patients. Thus, this community sample is not an adequate [comparison group] for our bulimic population. (p. 742)

Herzog, Keller, Lavori, and Ott (1987) recruited non-bulimic subjects relatively similar in age to their bulimic sample, and also verified that their groups were statistically similar on other demographic variables such as marital status, occupational status, level of education, and economic class. Thus, by ensuring that there were no statistically significant differences between groups on these extraneous variables, the researchers were more confident that the significant social differences found between the groups were attributable to differences in bulimic status, and not to group differences on these demographic variables.

Weight status as a potential confounding variable. One problem in comparing bulimics to non-bulimics is that bulimia is thought to consist of two subtypes: (a) purging bulimics who tend to be in the normal weight range (i.e., neither underweight nor overweight) for their height, and (b) non-purging bulimics who

tend to be obese (Willmuth, Leitenberg, Rosen, & Cado, 1988). Very little research has been conducted investigating bulimia among normal weight individuals. In fact, only one study (Johnson & Berndt, 1983) has attempted to address this issue in the investigation of social functioning in bulimia. Their study excluded from the data analysis any respondents who met the criteria for anorexia nervosa (either presently or previously) as specified by Feighner, Robins, and Guze (1972). While this eliminated all underweight individuals from the analysis, it did not exclude overweight individuals, and therefore did not employ a truly homogeneous group of normal weight bulimics. Furthermore, this group of bulimics was compared to the normal community sample described by Weissman and colleagues (1978) for which no weight data were collected. Therefore, since the effect of weight status as an extraneous independent variable was not controlled for, it is difficult to determine whether the social differences found between the two groups were attributable to differences in bulimic status or to weight discrepancies.

How the Current Study Has Improved on the Previous Research

Addressing the problems of previous research. The current study has attempted to improve on the major shortcomings of previous research in the following ways. First, the SAS-SR normal community sample was not used as a comparison group for the bulimic subjects in the study. Instead, subjects recruited for

the non-bulimic comparison group were matched to subjects in the bulimic group on the basis of age. Second, weight status was controlled for by building it into the research design as another independent variable. This procedure was employed to isolate and identify the effect of weight status on social functioning, and determine whether there existed an interaction between weight status and bulimic status.

Employing the updated criteria for bulimia. All of the studies investigating social functioning in bulimia have been conducted using the DSM-III (American Psychiatric Association, 1980) diagnostic criteria for bulimia. Bulimic subjects have been selected on the basis of whether they met the DSM-III diagnostic criteria as assessed during an unstructured interview (Herzog, Keller, Lavori, & Ott, 1987), or as measured by instruments specifically designed by the researchers (Herzog, Borus, Hamburg, Ott, & Concus, 1987; Herzog et al., 1985; Herzog et al., 1986; Johnson & Berndt, 1983). With the exception of Johnson and Berndt's (1983) study, the psychometric properties of these instruments have generally not been reported or discussed in the literature. However, the research findings have been quite consistent across similar studies, suggesting that the instruments used to assess bulimia have been fairly reliable. In most cases, validity evidence was not collected, and thus the validity of the researcher-designed questionnaires is somewhat debatable. It is

therefore difficult to determine whether these instruments accurately classified subjects as bulimic according to DSM-III criteria.

The present study explored whether consistent research findings could be obtained using the current DSM-III-R criteria for bulimia as opposed to the DSM-III criteria. The Bulimia Test - Revised (BULIT-R) (Thelen, Farmer, Wonderlich, & Smith, 1991), which is based on the DSM-III-R criteria, was used to accomplish this.

Hypotheses

Bulimia and Overall Social Functioning

The first hypothesis of this study was that females between the ages of 18 and 30 who were classified as bulimic by the BULIT-R would score higher (i.e., more maladjusted) on the overall social adjustment measure of the SAS-SR than would age-matched females who were classified as non-bulimic by the BULIT-R. This hypothesis has its basis in research (described in the previous section) that has demonstrated that bulimic women report more overall social maladjustment than their non-bulimic counterparts.

The second hypothesis was that the expected difference in global social functioning between the bulimic and non-bulimic groups would also be expected to hold true for healthy weight women as well as for overweight and underweight women. That is, the nature of the relationship between bulimic status and the

overall scale was expected to be the same for the underweight, healthy weight, and overweight subgroups. The rationale for this hypothesis was as follows: Although our society places great emphasis on thinness, individuals who do not fall into the underweight category can generally still function well socially. (Exceptions may include those individuals who are socially incapacitated by being extremely overweight). An individual with bulimia, however, is faced with concealing her disorder and its socially unacceptable behaviors (e.g., vomiting). Therefore, even if her weight is at the culturally prescribed level of thinness, the secretive nature and behaviors of her eating disorder restrict and impair her social functioning. Thus bulimic status, irrespective of weight status, should affect how an individual functions socially.

Bulimia and Specific Social Functioning

The third hypothesis was that females (ages 18-30) who were classified as bulimic by the BULIT-R would have higher mean SAS-SR subscale scores in all areas of social functioning than would age-matched females who were classified as non-bulimic by the BULIT-R. The rationale for this hypothesis was that research (described in the previous section) has found that bulimic women report significantly more social maladjustment on the SAS-SR subscales than do non-bulimic women.

The fourth hypothesis was that the differences in social functioning expected between the bulimic and non-bulimic groups would also be expected to be consistent across age, marital status, occupational status, and level of education. The rationale for this hypothesis was that studies (e.g., Herzog, Keller, Lavori, and Ott, 1987) have shown that in comparison with the effect of bulimic status (i.e., bulimic vs. non-bulimic), the effects of such demographic variables have been minimal.

Bulimia and Weight-Related Symptoms/Behaviors

The fifth hypothesis was that females (ages 18-30) who were classified as bulimic by the BULIT-R would report more extreme weight-related symptoms/behaviors than age-matched females who were classified as non-bulimic by the BULIT-R. Specifically, it was expected that bulimic women: (a) would report greater fluctuations in weight since reaching their present height and during the past year; and (b) would report weighing themselves more frequently than will non-bulimic women. The rationale for this hypothesis was that the literature has suggested that many bulimic women report frequent weight fluctuations of more than ten pounds due to their alternating binges and fasts (American Psychiatric Association, 1980; Pyle et al., 1981). The literature also has suggested that bulimic individuals may engage in ritualized behavior around body measurement, and thus may weigh themselves quite frequently (Johnson & Connors, 1987).

CHAPTER III

Research Design and Methods

This chapter provides a description of the sample, measurement instruments, and the data collection procedures used in the study.

Sample

The population of interest in this study was females between the ages of 18 and 30. Females were chosen for two reasons: (a) Research has shown that bulimia predominantly affects women, and (b) the effects of gender could be minimized by selecting only females. The age range of 18 to 30 was chosen because research has demonstrated that bulimia typically affects individuals during late adolescence and early adulthood. In addition, this relatively narrow age range was selected to facilitate the age-matching process.

Sampling Procedure

A nonprobability based sampling technique (i.e., volunteer sampling) was used to select a sample from the female population aged 18-30. Bulimic subjects were recruited through newspaper advertisements, flyers, and letters to health professionals working in the area of eating disorders. These advertisements and letters requested women ages 18-30 with bulimia to participate in a study examining the social functioning of bulimic women. Non-bulimic subjects were recruited through newspaper advertisements

and flyers, which requested women (ages 18-30) to volunteer for a study investigating the social functioning of women.

The bulimic group was first to be recruited. In total, 37 women replied to the advertisements, flyers, and letters. Of these, 8 women did not keep their appointments to complete the surveys. In addition, 2 subjects were excluded from the data analysis because their scores did not reach the BULIT-R cutoff point. (These individuals were not placed in the non-bulimic group because it was felt that due to the way they entered the study, they could potentially have different characteristics from both the non-bulimic and bulimic groups). Another 2 subjects were excluded from the data analysis because they fell outside of the prescribed age range (i.e., ages of 37 and 44).

The non-bulimic group was recruited after the majority of subjects in the bulimic group had completed the surveys. Of the 45 women who replied to the advertisements and flyers, 7 women did not keep their appointments to complete the surveys. One woman was excluded from the data analysis because she scored above 85 on the BULIT-R (i.e., in the bulimic range). (This individual was not placed in the bulimic group because it was felt that due to the way she entered the study, she could potentially have different characteristics from both the bulimic and non-bulimic groups). Another woman was excluded as she was outside of the prescribed age range (i.e., age = 39). An additional 2 women

(ages 18 and 29) were excluded because there were no same-aged bulimic counterparts with whom they could be paired. Because there were too many non-bulimic women of ages 22 (3 extra women), 24 (2 extra women), 25 (2 extra women), 27 (1 extra woman), and 30 (1 extra woman) than could be age-matched to women in the bulimic group, the extra women were excluded from the data analysis. To determine which of the non-bulimic subjects to match and which to exclude in these age categories, a random "lottery" process was used. (This same random pairing process was also used in all cases where more than one pair in an age category needed to be created). So as not to bias the results in any way, the SAS-SR was not scored until after the matching process was completed.

Bulimic Group

The bulimic group consisted of 25 female volunteers who were within the prescribed age range (ages 18-30), and who met the criteria for bulimia as measured by the BULIT-R to be discussed in the next subsection. Subjects were classified as bulimic if their total BULIT-R scores were 85 or above. BULIT-R scores for the bulimic subjects used in the study ranged from 85 to 139, with a mean score of 115.

The bulimic group derived from the following sources: (a) the University of Alberta by means of flyers posted on campus and a newspaper advertisement placed in the Solstice university paper; (b) Grant MacEwan Community College by means of flyers posted on

campus; (c) the Edmonton Examiner newspaper by means of an advertisement; (d) A Centre for Women: A Wellness Association by means of a newsletter article; (e) referrals by professionals (i.e., psychologists, psychiatrists, and physicians) who work with eating disordered patients; and (f) public facilities such as libraries, grocery stores, and fitness facilities where flyers were placed.

Non-Bulimic Comparison Group

The non-bulimic comparison group consisted of 25 female volunteers who were within the prescribed age range (ages 18-30), and who did not meet the BULIT-R criteria for bulimia (i.e., total score of less than 85). BULIT-R scores for subjects used in the non-bulimic group ranged from 31 to 73, with a mean score of 43.

The non-bulimic group was recruited after the bulimic group had completed the study in order that the non-bulimic subjects could be age-matched to the bulimic subjects. The non-bulimic group derived from the following sources: (a) the University of Alberta by means of a newspaper advertisement in the Solstice university paper and flyers posted on campus; (b) the Edmonton Examiner newspaper by means of an advertisement; (c) A Centre for Women: A Wellness Association; and (d) public facilities such as libraries, grocery stores, and fitness facilities where flyers were placed.

Comparability of the Bulimic and Non-Bulimic Groups

Table 1 compares the profiles of the bulimic and non-bulimic groups in terms of marital status, occupational status, and level of education. As shown in the table, the majority of bulimic subjects were single (72%), employed (60%), and university or college educated (88%). The majority of non-bulimic subjects were single (84%), employed (44%), and university or college educated (56%). Note that from the table it appears that the non-bulimic group achieved a higher level of education than the bulimic group. In actual fact, a significant difference between the groups was found with respect to level of education, χ^2 (2, N = 50) = 10.98, p = .004. However, substantial confidence should not be placed in this finding because there were empty cells in the chi-square analysis. Additional chi-square analyses determined that the groups were not significantly different in terms of their marital status or occupational status.

The age distribution of the age-matched pairs in this study is presented in Figure 1. As shown in this figure, age 25 was the most frequently reported age. The age-matched pairs of bulimic and non-bulimic subjects represented all of the ages within the prescribed age range with the exception of ages 18 and 29. The mean age for the age-matched pairs was 24.

With respect to weight status (for the operational definition, see the discussion on Body Mass Index in the next

Table 1

Distribution of the Marital Status, Occupational Status, and Educational Level of the Bulimic and Non-Bulimic Groups

Demographic variable	Group	
	Bulimic[a]	Non-bulimic[b]
Marital status		
Single	18 (72%)	21 (84%)
Married (including common law)	5 (20%)	3 (12%)
Divorced	1 (4%)	1 (4%)
Separated	1 (4%)	0 (0%)
Occupational status		
Employed (full/part-time/ temporary/summer job)	15 (60%)	11 (44%)
Student	4 (16%)	9 (36%)
Not presently employed	6 (24%)	5 (20%)
Level of education		
High school[c]	3 (12%)	2 (8%)
University/college[d]	22 (88%)	14 (56%)
Graduate school[e]	0 (0%)	9 (36%)

[a] n = 25. [b] n = 25. [c] This category is defined as having completed some or all of high school. [d] This category is defined as having taken some university/college courses, or possessing an undergraduate degree or college diploma. [e] This category is defined as having taken some courses in graduate school, or possessing a graduate degree.

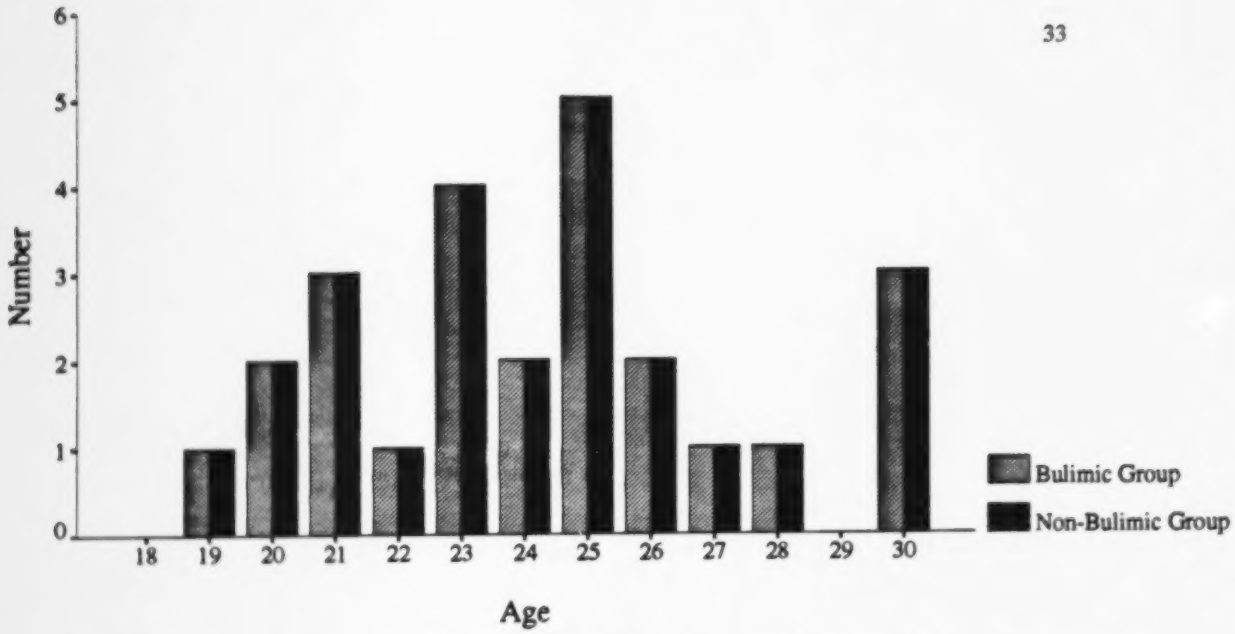

Figure 1. Age distribution of the bulimic and non-bulimic age-matched pairs.

section), 20% of the bulimic group were underweight whereas 28% of the non-bulimic group were underweight. Regarding the healthy weight category, 56% of the bulimic group and 68% of the non-bulimic group were classified as being of healthy weight. With respect to the overweight category, 20% of the bulimic and 4% of the non-bulimic groups were classified as overweight. (Note that the sum of the percentages for the bulimic group does not equal 100%. This is because 1 bulimic subject did not report her height and weight, and thus her weight status could not be determined).

Instruments

Packets containing a three-part questionnaire were distributed to all research participants. These packets contained the following instruments: (a) a demographic questionnaire; (b) the BULIT-R; and (c) the SAS-SR. Each of these instruments will now be discussed.

Demographic Questionnaire

A demographic questionnaire (see Appendix A) was constructed to gather information on age, marital status, occupational status, level of education, weight status, weight fluctuations, discrepancy between current and ideal weight, importance of achieving ideal weight, and frequency of weighing behavior. (The operational definitions for weight status, weight fluctuations, and discrepancy between current and ideal weight are provided below.) This instrument was developed partially from

questionnaires used by other researchers (Halmi et al., 1981; Henderson & Freeman, 1987; Herzog, Keller, Lavori, & Ott, 1987; Post & Crowther, 1987) and partially from extracting variables repeatedly emphasized in the literature.

Weight status as measured by the Body Mass Index. Each subject was asked to indicate her present height and weight. From this information, an individual was considered of healthy weight if her Body Mass Index, which is defined as weight divided by height squared, was between 20 and 27 and thus within the "generally acceptable range of weight for health" (Minister of National Health and Welfare, 1988). An individual was considered underweight if her Body Mass Index fell below this range, and overweight if it fell above this range.

The Body Mass Index was chosen over the widely used Metropolitan Height and Weight Tables (1983) for the following two reasons:

1. The Body Mass Index depends only upon the measures of weight and height. The 1983 Metropolitan Height and Weight Tables require not only height and weight information, but also an approximation of body frame (determined by measuring an individual's elbow breadth). Thus, for purposes of simplicity and accessibility, the Body Mass Index was preferred.

2. The 1983 Metropolitan Height and Weight Tables provide standards for adults between the ages of 25 and 59. Because the

age range of this study was 18-30, norms for younger adults were required. The Body Mass Index met this need as norms for ages 15-69 are provided for it.

Weight fluctuations. Subjects were asked to report on the most and least they had weighed since reaching their present heights and during the past year. To determine an individual's weight fluctuations since reaching her present height, the lowest weight value was subtracted from the highest weight value. The same procedure was used to determine an individual's weight fluctuations during the past year.

Discrepancy between current and ideal weight. Each subject was asked to indicate her present weight as well as her perceived ideal weight. To determine the discrepancy between current weight and ideal weight, the ideal weight was subtracted from the current weight. For those individuals who wished to weigh less than their current weights, the discrepancy was a positive number. Conversely, for those who aspired to weigh more than they currently weighed, the discrepancy was a negative number. For those individuals who currently weighed what they aspired to weigh, the discrepancy equaled zero.

BULIT-R

The BULIT-R (see Appendix B), a screening device that assesses bulimic symptoms in adolescents and adults, was used to distinguish between bulimic and non-bulimic individuals in this

study. The BULIT-R is a 28-item multiple-choice instrument based on the DSM-III-R criteria for bulimia. (This instrument is essentially a revision of the Bulimia Test, which employed the DSM-III criteria for bulimia.) A self-report questionnaire, the BULIT-R consists of the following five factors: (a) bingeing and control; (b) body image and use of radical weight-loss measures; (c) laxative and diuretic use; (d) vomiting; and (e) exercise. Test items are scored on a 5-point scale (5 = extreme bulimic direction; 1 = extreme normal direction). Possible scores on the BULIT-R range from 28 to 140. While the authors (Thelen et al., 1991) suggest using a cutoff score of 104 on the BULIT-R to discriminate between bulimic and non-bulimic individuals, they also indicate that researchers may wish to use a cutoff lower than 104 (e.g., 85) to reduce the number of false negatives.

The BULIT-R was selected on the basis of its reported reliability and validity. The test-retest reliability of the BULIT-R was demonstrated by Brelsford, Hummel, and Barrios (1992) within a 4-6 week interval (r = .83), and by Thelen and his colleagues (1991) within a 2-month interval (r = .95). Analysis with Cronbach's coefficient alpha indicated an impressive estimate of internal consistency (alpha = .97) within the scale (Thelen et al., 1991).

Supportive of the construct validity of the BULIT-R was Thelen and colleagues' (1991) report that the BULIT-R correlated

highly with the BULIT (r = .99) developed by Smith and Thelen (1984), and the Binge Scale (r = .85) developed by Hawkins and Clement (1980). The BULIT-R scores also correlated significantly with symptom measures of binge eating (r = .65) and purging (r = .60) (Brelsford et al., 1992). In a concurrent study that examined the relationship between BULIT-R scores and rater judgments based on DSM-III-R criteria, Thelen and colleagues (1991) provided adequate criterion-related evidence for the BULIT-R.

SAS-SR

The social adjustment of the subjects was assessed using the SAS-SR (see Appendix C) developed by Weissman and Bothwell (1976), a written self-administered adaptation of the Social Adjustment Scale (SAS) (Weissman & Paykel, 1974). The SAS-SR is a 42-item instrument that measures role performance over the 2 weeks prior to the administration of the scale. In addition to providing a global measure of social functioning, the SAS-SR also assesses either instrumental or expressive role performance in six major social contexts: (a) work (as a student, an employee outside of the home, or a homemaker); (b) social and leisure activities; (c) relationship with extended family; (d) marital role; (e) parental role; and (f) membership in a family unit. The questions comprising the six subscales generally fall into four major categories: (a) behavioral performance at the expected tasks of

the subscale; (b) interpersonal friction and arguments; (c) interpersonal skills and behaviors; and (d) intrinsic satisfaction derived from the role.

Each question of the SAS-SR is rated on a five-point scale, with a higher score indicating greater social impairment. A score of 3 or above on individual items within the subscales indicates significant social dysfunction and corresponds to the subjective experience of feeling impaired about half the time. Scoring of the SAS-SR involves computing role-area mean scores for each of the six social contexts, and an overall mean score to provide a global estimate of social functioning. Finally, a single item is included to assess an individual's financial status. This item is not included in any of the scoring procedures.

The SAS-SR was chosen on the basis of its reliability and validity. The test-retest reliability of the SAS-SR was demonstrated by Edwards, Yarvis, and Mueller (1978) across two time periods (mean coefficient, $\bar{r}$ = .80), and by Resnick, Calhoun, Atekson, and Ellis (1981) within a one-month interval ($\bar{r}$ = .74). Edwards and colleagues (1978) also demonstrated acceptable internal consistency of item content (mean coefficient alpha, $\bar{r}$ = .74). Weissman and Bothwell (1976) reported that interrater reliabilities on subscales ranged between .43 and .62 for acutely ill depressed outpatients and significant others, and between .34 and .74 for recovered depressed patients and significant others.

Evidence for the concurrent validity of the instrument was demonstrated by Weissman and Bothwell's (1976) report of agreement of the SAS-SR with the SAS interview. The correlations ranged from .40 to .76 on subscales, and was .72 for the overall social adjustment measure. In addition, Weissman and colleagues (1978) reported that the SAS-SR distinguished a nonclinical, community sample from three psychiatric outpatient populations: acute depressives, alcoholics, and schizophrenics. The SAS-SR also distinguished acute from recovered depressed patients (Weissman & Bothwell, 1976). Supportive of the discriminant validity of the SAS-SR was the lack of significant relationship between overall social adjustment scores on the SAS-SR and sociodemographic characteristics such as age, sex, race, and social class (Weissman & Bothwell, 1976).

Procedures

Individuals interested in participating in the study were first required to contact the researcher by telephone. During this initial telephone contact, participants were given information about the nature and purpose of the study, which will be described in detail below. For scheduling purposes and for the maintenance of subjects' anonymity, the study involved individual administrations of the surveys.

The nature and purpose of the research was explained to participants both during the initial telephone contact and at the

time the study was being conducted. The following information was relayed to each group.

In explaining the nature and purpose of the study to participants in the bulimic group, the researcher first broadly introduced the study as an attempt to better understand the psychological/psychosocial characteristics of individuals with bulimia. It was explained that an important area of study within this research domain has involved examining the association between bulimia and social functioning. Participants in this group were informed that their participation in the study would provide the researcher with important information about the social functioning of women with bulimia.

In explaining the nature and purpose of the study to participants in the non-bulimic comparison group, the researcher informed them that their participation would provide important normative data on the social functioning of women between the ages of 18 and 30. The participants were told that the data collected from their group would be compared to data gathered from a group of women with bulimia.

Subjects from both groups were told that after signing a consent form, they would be requested to complete three self-report surveys for this study: (a) a demographic questionnaire to gather information such as age, marital status, occupational status, level of education, weight, height, and weight-related

feelings and behaviors; (b) the BULIT-R to screen for bulimia and thus ensure that individuals in each group were correctly classified; and (c) the SAS-SR to assess overall social functioning over the past 2 weeks, as well as role performance in six major social contexts, including work, social/leisure activities, relationship with extended family, marital role, parental role, and membership in a family unit.

The following procedure occurred at each administration of the surveys. After giving adequate information to ensure that subjects knew the nature and purpose of the study, the researcher asked the subjects to consider whether they still wished to participate in the voluntary study. All subjects agreed to participate, and so were asked to read and sign a consent form. Subjects in the bulimic group signed a slightly different form from those in the non-bulimic group (see Appendices D and E for copies of the forms used in the bulimic and non-bulimic groups, respectively). Subjects were told that the researcher would consider that they had given their informed consent only if they had signed this form and had returned their entire survey packet to the researcher at the end of the study. Based on these criteria, all subjects gave their informed consent to participate in the study.

The researcher informed all participants that their anonymity and confidentiality would be protected in that the surveys they

were asked to complete: (a) would not request them to identify themselves; and (b) would only be available to the researcher conducting the study. Those individuals who wished to receive the results of the study by mail were asked to write their names and addresses on index cards provided and submit them to the researcher separately from the surveys. This procedure ensured that no identifying information was placed directly on the surveys and that the data could not be linked to specific subjects. Subjects were informed that the survey identification numbers at the top of the survey pages had been arbitrarily assigned to each survey packet and were not linked in any way to specific subjects. It was explained that the assigned identification number would simply help to identify the survey from which the pages came in the event that survey pages become separated.

The subjects were clearly informed (both verbally and on the consent form) of their right to decline to enter the study and their right to withdraw from the study at any time without penalty. All subjects who met with the researcher entered the study and completed the surveys.

The researcher instructed subjects about the format of the questionnaires. In addition to general instructions, subjects were specifically instructed to exclude pregnancy weight if applicable when responding to the questions regarding weight fluctuations. The researcher periodically checked with the

subjects while the self-report forms were being completed, in order to ensure completeness of responses and answer any questions that arose.

CHAPTER IV

Results

This chapter summarizes the results of the study in the following format: First, each hypothesis is restated, then a description of the statistical analysis of the data and pertinent tables/figures are offered. Conclusions involving subsidiary findings, as revealed by additional statistical analyses, are also provided.

Relationship Between Bulimia and Social Functioning

Bulimia and Overall Social Functioning

My first hypothesis was that females between the ages of 18 and 30 who were classified as bulimic by the BULIT-R would score higher on the overall social adjustment measure of the SAS-SR than would age-matched females who were classified as non-bulimic by the BULIT-R. My second hypothesis was that the expected difference in overall social functioning between the bulimic and non-bulimic groups would also be expected to hold true for healthy weight women as well as for overweight and underweight women.

To investigate the first and second hypotheses, I conducted a one-way analysis of covariance with the variable of Group (bulimic vs. non-bulimic) a within-subjects factor, and Body Mass Index the covariate. A main effect for bulimic status was found, $F(1, 22) = 50.72$, $p < .0005$. This relationship is depicted in Figure 2, which shows that the bulimic group scored consistently higher

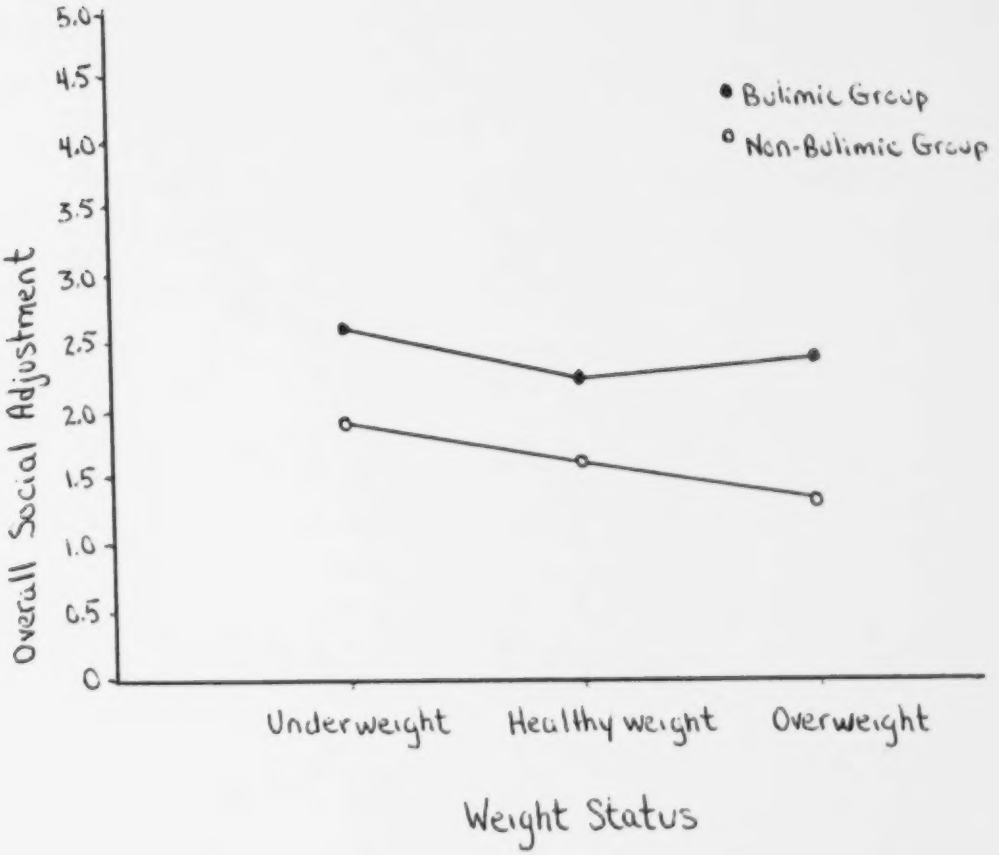

Figure 2. Mean overall social adjustment scores as a function of bulimic status and weight status.

(i.e., more socially impaired) than the non-bulimic group on the overall adjustment score. A main effect for Body Mass Index was also found, $F(1, 22) = 6.30$, $p = .02$. As shown by Figure 2, the underweight subjects seemed to score higher on the overall scale than the healthy weight subjects and the overweight subjects. However, post-hoc comparisons would need to be considered to determine whether in fact any of the weight subgroups were significantly different from each other. The lines in Figure 2 are nonparallel, which would typically suggest the presence of an interaction. However, the statistical analysis revealed that there was not a significant interaction between bulimic status and weight status. That is, the nature of the relationship between bulimic status and the overall scale was the same for the underweight, healthy weight, and overweight subgroups. Figure 2 can be more clearly understood by referring to Table F-1 (see Appendix F), which shows that the weight subgroups were of unequal sizes. The majority of cases from both the bulimic and non-bulimic groups fell into the healthy weight subgroup. The underweight and overweight subgroups contained far fewer subjects. The smallest subgroup was the overweight subgroup, which consisted of 5 bulimic subjects and only 1 non-bulimic subject.

Bulimia and Specific Social Functioning

My third hypothesis was that females (ages 18-30) who were classified as bulimic by the BULIT-R would have higher mean SAS-SR

subscale scores in all areas of social functioning than would age-matched females who were classified as non-bulimic by the BULIT-R. To investigate this hypothesis several *t*-tests for paired samples were conducted comparing the means of the bulimic and non-bulimic groups on the six SAS-SR subscale scores.

As shown in Table 2, the bulimic group had higher mean scores than did the non-bulimic group on the occupational, social/leisure, extended family, marital, and family unit subscales. On the occupational subscale, the paired *t*-test revealed that the difference between the means was significant, $t(24) = 2.47$, $p = .011$. Similar results were found on the social/leisure subscale wherein the mean difference was significant, $t(24) = 6.44$, $p < .0005$. On the extended family subscale, the difference between the means was also significant, $t(24) = 5.14$, $p < .0005$. Similarly on the marital subscale, the mean difference was significant, $t(1) = 1111$, $p < .0005$. (Note that the degrees of freedom for this analysis were very small because there were only 2 age-matched pairs who completed the marital subscale). On the parental subscale, there were no age-matched pairs of bulimics and non-bulimics who completed this subscale, and therefore the paired *t*-test could not be performed. On the family unit subscale, the mean difference was significant, $t(2) = 4.16$, $p = .027$. (Note that the degrees of freedom for this analysis were very small because only 3 age-matched pairs

Table 2

Subscale Scores of the Bulimic and Non-Bulimic Age-Matched Pairs

	Subscale[a]				
Group	Occupational[b]	Social/ leisure[c]	Extended family[d]	Marital[e]	Family unit[f]
Bulimic					
M	1.8	2.5	2.4	2.1	2.7
SD	.4	.7	.6	.3	.9
Non-bulimic					
M	1.6	1.8	1.7	1.6	1.4
SD	.4	.4	.5	.3	.5

[a]The parental subscale was omitted because there were no age-matched pairs of bulimics and non-bulimics who completed this subscale. [b]n = 25 age-matched pairs for this subscale. [c]n = 25 age-matched pairs for this subscale. [d]n = 25 age-matched pairs for this subscale. [e]n = 2 age-matched pairs for this subscale. [f]n = 3 age-matched pairs for this subscale.

completed the family unit subscale).

My fourth hypothesis was that the differences in social functioning expected between the bulimic and non-bulimic groups would also be expected to be consistent across age, marital status, occupational status, and level of education.

Because the bulimic and non-bulimic groups were age-matched, the differences in social functioning found between the groups in the previous analyses were consistent across age. To examine whether the differences in social functioning between the bulimic and non-bulimic groups were consistent across marital status, occupational status, and level of education, two-way analyses of variance were to have been conducted. However, due to some empty cells, the data did not lend themselves to the two-way analysis procedure. For a presentation of the data for marital status, occupational status, and level of education, refer to Tables G-1, G-2, and G-3, respectively, in Appendix G. From an inspection of the data patterns, the effects of marital status, occupational status, and level of education appeared to be negligible in comparison with the effects of bulimic status.

Bulimia and Weight-Related Symptoms/Behaviors

My fifth hypothesis was that females (ages 18-30) who were classified as bulimic by the BULIT-R would report more extreme weight-related symptoms/behaviors than age-matched females who were classified as non-bulimic by the BULIT-R. Specifically, it

was expected that bulimic women: (a) would report greater fluctuations in weight since reaching their present height and during the past year; and (b) would report weighing themselves more frequently than would non-bulimic women.

A *t*-test for paired samples was performed comparing the means of the bulimic and non-bulimic groups on their fluctuations in weight since reaching their present heights. The mean weight fluctuation for the bulimic group was 52 pounds, whereas the mean weight fluctuation for the non-bulimic group was 23 pounds. The difference between the means was significant, $t(23) = 3.27$, $p = 002$.

A *t*-test for paired samples was conducted comparing the means of the two groups on their weight fluctuations during the past year. The bulimic group had a mean weight fluctuation of 18 pounds, while the mean weight fluctuation for the non-bulimic group was 10 pounds. The mean difference was significant, $t(23) = 2.67$, $p = .007$.

A chi-square test of association was conducted to determine whether the bulimic and non-bulimic groups differed in their frequency of weighing behavior. An association was found between the group to which one belonged and the frequency one weighed oneself, $\chi^2(6, N = 50) = 20.04$, $p = .003$. As shown in Table 3, the majority of bulimic subjects reported weighing themselves more frequently than the non-bulimic subjects.

Table 3

Frequency of Weighing Behavior by Bulimic and Non-Bulimic Subjects

	Response category						
Group	Never	Once a year	Several times a year	Monthly	Weekly	Daily	More than daily
Bulimic[a]	3	0	0	4	6	8	4
Non-bulimic[b]	2	2	8	6	6	1	0

[a] $n = 25$. [b] $n = 25$.

Subsidiary Findings

Clinically Meaningful Social Impairment

In order to more closely examine the meaning of the significant differences found on the overall scale, as well as the occupational, social/leisure, extended family subscales, the subjects' responses to individual items within the subscales were considered. Because the authors of the SAS-SR found that a score of 3 or above was indicative of social dysfunction and corresponded to the subjective experience of feeling impaired about half the time, the incidence of item scores of 3 or above were compared between the bulimic and non-bulimic groups. Analyses using the Wilcoxon rank sum test did not provide sufficient evidence to support that the bulimic subjects had significantly more scores in the socially impaired range on any particular SAS-SR item than did the non-bulimic subjects.

To further investigate the prevalence of clinically meaningful social impairment, the frequency of subscale scores of 2.4 or above was determined. (A score of 2.4 was approximately 2 standard deviations above the mean overall score of the non-bulimic group). The Wilcoxon rank sum test supported that the bulimic group had significantly more scores within the socially impaired range on the social and leisure subscale than did the non-bulimic group, $W = 10.5$, $p = .039$. Differences between the groups on the other subscales were not statistically significant.

Importance Placed on Achieving Ideal Weight

A chi-square test of association was conducted to determine whether the bulimic and non-bulimic groups differed in the amount of importance they placed on achieving their ideal weight. A significant association was found between the group to which one belonged and the importance placed on achieving one's ideal weight, $\chi^2(4, N = 49) = 16.96$, $p = .002$. As shown in Table 4, the vast majority of bulimic subjects indicated that achieving their ideal weight was somewhat to very important for them. There was very little spread in the responses of the bulimic group to this question. (Note that the bulimic group has only 24 cases because 1 subject did not respond to this question). Conversely, there was much more spread in the non-bulimic group, with the majority of subjects responding in the Neutral and Somewhat Important categories.

Significant Correlations

A correlation matrix was generated between the variables in this study in order to examine whether there were other significant trends occurring in the data aside from those related to the primary research hypotheses. Below, I summarize the most important correlations found.

A negative correlation was found between weight status (i.e., Body Mass Index) and the importance placed on achieving one's ideal weight, $r(47) = -.33$, $p = .02$. (The Spearman rank-order

Table 4

Importance Placed on Achieving Ideal Weight by Bulimic and Non-Bulimic Subjects

	Response category				
Group	Very important	Somewhat important	Neutral	Somewhat unimportant	Very unimportant
Bulimic[a]	15	8	1	0	0
Non-Bulimic[b]	3	11	7	3	1

[a] $n = 24$. [b] $n = 25$.

correlation was used because ordinal data were being analyzed.) In other words, there was a relationship between being overweight and placing a great deal of importance on achieving one's ideal weight. Conversely, underweight women tended to place less importance on achieving their ideal weight.

A significant negative correlation was found between the frequency of weighing behavior and the importance placed on achieving one's ideal weight, $r(47) = -.45$, $p = .001$. (The Spearman rank-order correlation was used because ordinal data were being analyzed.) That is, subjects who weighed themselves frequently tended to respond that achieving their ideal weight was of considerable importance to them. Conversely, those who weighed themselves infrequently tended to report that achieving their ideal weight was relatively unimportant to them. This may actually be a spurious correlation because bulimic status is likely a common variable related to both the correlated variables. To address this issue, the correlation between frequency of weighing behavior and importance of achieving ideal weight was determined for each group. The correlation between these two variables was not significant when each group was considered separately. The magnitude of the correlation coefficient for the bulimic group was $r(22) = -.14$, $p = .517$ whereas the magnitude of the correlation coefficient for the non-bulimic group was $r(23) = -.34$, $p = .095$.

CHAPTER V

Discussion and Conclusions

This chapter provides an evaluation and interpretation of the results, along with a discussion of the limitations, implications, and applications of this research.

Evaluation and Interpretation of Findings

The literature review provided in Chapter II contains a rationale for the hypotheses of this study. A greater degree of confidence can now be placed in that rationale.

Bulimia and Overall Social Functioning

The data supported the first hypothesis, which predicted that the bulimic group would score significantly higher on the overall scale of the SAS-SR than would the non-bulimic group. Thus, the results of the current study confirm what previous studies have reported -- that bulimic women tend to be less well-adjusted socially than non-bulimic women.

The data supported the second hypothesis, which asserted that the difference in overall social functioning between the groups would be consistent across the various weight categories. The analyses revealed a lack of interaction between bulimic status and weight status on the overall scale of the SAS-SR. That is, the nature of the relationship between bulimic status and the overall scale was the same for the underweight, healthy weight, and overweight subgroups. Although the presence of an interaction was

not indicated, main effects due to bulimic status and to Body Mass Index were found. With respect to weight status (i.e., Body Mass Index), an inspection of the data trends seemed to show that underweight subjects tended to score higher on the overall scale than did healthy weight subjects or overweight subjects. This could possibly suggest that the underweight individuals were more socially maladjusted than were the healthy weight or overweight individuals. This, however, is only speculation as post-hoc comparisons were not made to determine which weight subgroups were significantly different from each other.

Bulimia and Specific Social Functioning

The third hypothesis was supported in that the bulimic group showed significantly higher scores than did the non-bulimic group on the occupational, social/leisure, extended family, marital, and family unit subscales. These results supported the findings of earlier comparative studies in which bulimics were reported as more socially impaired on these subscales than their non-bulimic peers (Herzog et al., 1986; Herzog, Keller, Lavori, & Ott, 1987). As the parental subscale could not be processed in the current study due to lack of sufficient age-matched pairs, the results from this subscale remain inconclusive.

The fourth hypothesis predicted that the difference in social functioning between the bulimic and non-bulimic groups would be consistent across such demographic variables as age, marital

status, occupational status, and level of education. Because of the matching procedure used to pair same-aged bulimic and non-bulimic individuals in this study, the differences in social functioning found between the two groups was consistent across age. With respect to marital status, occupational status, and level of education, statistical analyses of the data were not feasible due to some empty cells. However, an inspection of the data trends seemed to reveal that in comparison with the effect of bulimic status, the effects of marital status, occupational status, and level of education were minimal. This increases the likelihood that the social differences found between the two groups were attributable to differences in bulimic status than to any pre-existing differences on these demographic variables.

Bulimia and Weight-Related Symptoms/Behaviors

The fifth hypothesis was supported in that the bulimic group reported more extreme weight-related symptoms/behaviors than the non-bulimic group. The results confirmed that the bulimic women generally experienced greater weight fluctuations than non-bulimic women. These findings are congruent with those cited by Pyle and colleagues (1981). In addition, the bulimic subjects reported weighing themselves more frequently than did their non-bulimic counterparts, suggesting that they are likely to develop ritualized patterns of frequent weight monitoring.

Comparison of Results With Those of Previous Research

The social adjustment results from the present study were compared to those collected on bulimic and community samples in order to assess whether the small samples used in this study might have been skewed. As shown in Table 5, the data from the overall scale, as well as the occupational, social/leisure, and extended family subscales of the bulimic sample in the present study were similar to those reported for a self-selected sample of bulimics (Johnson & Berndt, 1983) as well as for clinical samples of bulimics (Herzog, Keller, Lavori, & Ott, 1987; Norman & Herzog, 1984). Note that the results from the other subscales are not shown in Table 5 because some of the previous studies did not provide data for these subscales.

Similarly, as summarized in Table 6, data from the non-bulimic sample in the present study were comparable to the non-bulimic comparison group used by Herzog, Keller, Lavori, and Ott (1987), as well as to the normal community sample described by Weissman and colleagues (1978).

Subsidiary Findings

Clinically meaningful social impairment. Additional analyses went beyond the formal hypotheses and provided more information about the data. Of consequence was the finding that the bulimic group had significantly more scores within the socially impaired range on the social and leisure subscale than did the non-bulimic

Table 5

Social Adjustment Scores for Bulimic Subjects in the Current Study and in Related Studies

	Scale or subscale			
Study	Overall	Occupational	Social/ leisure	Extended family
Current				
M	2.3	1.8	2.5	2.4
SD	.5	.4	.7	.6
Johnson & Berndt (1983)				
M	2.2	2.0	2.6	2.1
SD	.4	.5	.8	.6
Herzog, Keller, Lavori & Ott (1987)				
M	2.3	2.1	2.6	2.1
SD	.5	.7	.7	.6
Norman & Herzog (1984)				
M	2.2	2.2	2.4	2.1
SD	.4	.8	.6	.6

Table 6

Social Adjustment Scores of Two Non-Bulimic Samples and a Community Sample of Women

	Scale or subscale			
Study	Overall	Occupational	Social/ leisure	Extended family
Current				
M	1.7	1.6	1.8	1.7
SD	.3	.4	.4	.5
Herzog, Keller, Lavori & Ott (1987)				
M	1.7	1.6	1.8	2.2
SD	.4	.3	.4	.6
Weissman et al. (1978)				
M	1.6	1.5	1.8	1.5
SD	.3	.5	.5	.4

group. This suggests that of all the subscales, the bulimic group experienced greatest social adjustment problems in their social and leisure activities. It is difficult, however, to ascertain whether this social impairment was due to the bulimia, an unrepresentative sample, or some other factor. If this social impairment was in fact due to the bulimia, this may suggest that a bulimic's weight-related behaviors and preoccupation with dieting make it distressing to go out socially with friends, possibly because most social events involve food.

Importance placed on achieving ideal weight. It was found that bulimic subjects placed more importance on achieving their ideal weights than non-bulimic subjects. These results confirm the body of literature that asserts that bulimic individuals are preoccupied with their body weight. It is not surprising that this relationship was found given that the instrument used to classify subjects into the bulimic and non-bulimic groups was based on the DSM-III-R criteria for bulimia, which included a persistent overconcern about body shape and size.

Significant correlations. Some correlations were found between the variables in this study that require further comment. One such correlation involved the relationship between having a high Body Mass Index (i.e., in the overweight category) and placing a great deal of importance on achieving one's ideal weight. However, given the small number of subjects in the

overweight and underweight subgroups, a great deal of confidence should not be placed in this finding. Once again, larger subgroups may help to resolve this problem. Another correlation revealed that subjects who weighed themselves frequently tended to respond that achieving their ideal weight was of considerable importance to them.

Limitations

Causal Question Not Addressed

As this study supports the hypothesis that bulimia is associated with impairment in social functioning, the question arises as to whether the bulimic women were maladjusted and therefore at greater risk to develop bulimia, or whether bulimic symptoms are responsible for social impairment. Although I believe that the latter is the case based on clinical observations reported in the literature and on personal observations, the results from this study do not allow an answer to this causal question.

Limited Sample Size

The results from this study need to be interpreted with caution due to the limited sample size. A larger sample size would have helped to increase the accuracy of the statistical estimates, particularly those regarding the small-sized weight subgroups.

Limited Generalizability

Because only women were studied in order to eliminate the effects of gender as a possible extraneous variable, the generalizability of the results were affected to a certain degree. That is, the findings say nothing about male bulimics.

Possible Bias in Nonresponse

As the subjects in this study were recruited on a strictly voluntary basis, this may be a source of bias in this study. Subjects who choose not to participate in surveys on eating disorders may be somehow different from those who do participate, and thus their nonresponse may distort the findings.

Limitations of the Instruments

Demographic Questionnaire. The demographic questionnaire did not include questions about race or socioeconomic status, which would have provided for a more complete demographic profile of the groups.

BULIT-R. With reference to the BULIT-R, a subject in the non-bulimic group commented that it seemed very skewed to the bulimic population. As a result, it can be difficult for someone without an eating disorder to find an answer that captures her response.

SAS-SR. The SAS-SR seemed outdated to many of the participants. For instance, this instrument categorizes the occupational role area in terms of work outside the home, work as

a student, and work as a homemaker, but does not consider the individual whose office is at home. Also, because only one work area goes into the overall adjustment score, it does not give consideration to an individual who has multiple work roles (e.g., works as a student as well as an employee). One subject commented that the SAS-SR really did not have the capacity to yield an accurate picture of her life and activities. She suggested that a few long-answer questions might have taken care of the ambiguities missed with the multiple choice format of the SAS-SR. Another limitation of the SAS-SR is that it looks at maladjustment in interpersonal relations in terms of having many arguments. As one participant pointed out, what about those individuals who do not argue, but instead withdraw from conflict? According to the SAS-SR, these people would be considered better adjusted than those who argue, even though they may actually be functioning less well in their interpersonal relations because they are not confronting issues assertively.

Based on my experience using the SAS-SR, I have serious reservations about its continued use in assessing the social functioning of individuals. Until it is updated, revised, and re-normed, I do not recommend its use in further research.

Implications

Social Functioning Included in the Diagnostic Criteria for Bulimia

As the results from this study generally support the hypotheses and are therefore consistent with the findings from other studies, an implication is the possible inclusion of social maladjustment as an essential feature of bulimia in future revisions of the Diagnostic and statistical manual of mental disorders (American Psychiatric Association, 1987). As mentioned earlier, the current DSM-III-R criteria for bulimia does not include social maladjustment in its diagnostic criteria. However, as more and more studies confirm that bulimic symptoms are associated with significant social maladjustment, it is likely that the criteria will be expanded to include this feature.

Addressing the Question of Causality

An implication for future research is to answer the causal question of whether social maladjustment predisposes one to develop bulimia, or whether social maladjustment is caused by bulimic symptoms. To date, there has been no attempt to investigate this issue.

Further Quantitative Inquiry Into Social Functioning

An extension of this study would be to conduct an indepth study into one particular area of social functioning. For instance, the family relationships of bulimic and non-bulimic

women could be compared. This would increase our knowledge and understanding about this specific area of social functioning.

Qualitative Inquiry Into Social Functioning

Because the SAS-SR is rather limited in the amount of information it can provide due to its multiple choice format, it would be valuable to conduct qualitative research into the social experiences of bulimic women. Many of the bulimic women in this study spoke to me about their personal experiences with the disorder, and from these conversations I gained a far better understanding of how bulimia affects social adjustment than I actually did from the quantitative results of this study. Based on what was disclosed to me by a number of the bulimic women, there is undoubtedly a wealth of information about this area that has not yet been captured by quantitative studies in this field. Thus, a qualitative study would allow for a more indepth and detailed portrayal of the complexities of social functioning in bulimia. In addition, qualitative research with theory generation as its goal would be a tremendous contribution as there really is no firm theoretical foundation on which to base quantitative research in this area.

Applications

Counselling Applications

Should future research determine that social maladjustment is a consequence of bulimia, the findings will be potentially

applicable to the counselling of bulimic women. That is, these results will likely suggest the need for a comprehensive approach to the treatment of bulimia. As recommended by Herzog, Keller, Lavori, and Ott (1987):

> Treatment should address specific areas of social dysfunction, including some combination of group therapy to address feelings of inadequacy in social situations; individual, cognitive, or psychodynamic psychotherapy to address perceived low self-esteem; and family therapy to address problems in family relationships. (p. 746)

Group therapy seems to be particularly suited to the bulimic woman, who often feels that she is alone in her struggle. From my conversations with the bulimic women in this study, many expressed that they felt reassured in knowing that there were other women of similar age and background who were also dealing with this disorder.

During the course of this study, many women inquired as to what resources existed in our community that offered treatment/counselling for women with bulimia. After doing considerable research into this, I was disappointed to discover that there presently is not much in the way of support for bulimic women in our city. To my knowledge, very few organized support groups exist. Although there are health professionals such as psychologists, psychiatrists, and physicians who specialize in the

treatment of eating disorders, their waiting lists are typically at least a year long. For the bulimic who has reached a critical point in her disorder such that she seeks treatment, being placed on a long waiting list likely leads to frustration and hopelessness, which may result in a further exacerbation of the problem.

As the prevalence of women with eating disorders increases, this shortage of referral agencies is not likely to improve unless some drastic measures are taken. In an ideal world, the treatment of eating disorders would involve a multi-disciplinary team approach. However, with the present status of our health care system, this is not expected to occur in the near future. Thus, as the incidence of bulimia continues to rise and the shortage of referral agencies does not improve, we may need to focus on preventive programs instead.

Applications for Preventive Programs

If future research demonstrates that social maladjustment predisposes individuals to bulimia, this will imply the need for a preventive type of educational program, e.g., one that teaches social skills to young students, particularly those experiencing difficulty in their social relations. Community workshops, which address such topics as sibling rivalry, peer relations problems, and family difficulties, may also be beneficial in reducing a

socially maladjusted child's risk for developing bulimia later in life.

As discussed in the previous subsection, there seems to already be a need for preventive programs to help those individuals at risk for developing bulimia. To date, some preventive workshops have been given to students in junior high and high school. These workshops alert students to the dangers of eating disorders and attack general misconceptions about dieting and other weight-related behaviors. Although these efforts are commendable, I think that given that even young girls of age 9 have attempted to diet, these programs must be introduced even earlier, i.e., in the elementary school grades. In this way, we can perhaps help educate young people before they begin to develop maladaptive attitudes and behaviors related to eating disorders.

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APPENDICES

Appendix A

Demographic Questionnaire

Please answer each of the following questions as carefully and honestly as possible. Please ensure that you answer *all* of the questions in the packet.

The information that you provide will be kept in strictest confidence and will only be accessible to this researcher.

1. What is your present age? _____ years

2. What is your present marital status? (check one)
___ Single
___ Married (including Common Law)
___ Divorced
___ Separated
___ Widowed

3. What is your present occupational status? (check one)
___ Employed (Full/Part-time/ Temporary/Summer Job)
___ Student
___ Not Presently Employed

4. What is the highest level of education that you have completed? (check one)
___ Grade School
___ Some High School
___ Completed High School
___ Some University/College
___ Completed University/College
___ Some Graduate Work
___ A Graduate Degree

5. What is your weight to the nearest pound (or kilogram)? _____ lbs (or ___ kg)

6. What is your height? ____ feet ____ inches (or ____ centimeters)

7. What is the MOST you have weighed since reaching your present height? _____ lbs (or ___ kg)

8. What is the LOWEST you have weighed since reaching your present height? _____ lbs (or ___ kg)

9. What was the MOST you have weighed during the past year? _____ lbs (or ___ kg)

10. What was the LEAST you have weighed during the past year? _____ lbs (or ___ kg)

11. What do you consider your ideal weight to be? _____ lbs (or ___ kg)

12. How important is it for you to achieve this ideal weight? (check one)

___ Very Important
___ Somewhat Important
___ Neutral
___ Somewhat Unimportant
___ Very Unimportant

13. How often do you weigh yourself?

___ Never
___ Once A Year
___ Several Times A Year
___ Monthly
___ Weekly
___ Daily
___ More than Daily

Please feel free to write any additional comments in the space provided after answering *all* parts of the questionnaire.

_____

_____

_____

_____

_____

_____

_____

If you are interested in the results of this study, please write your name and complete address (including postal code) on the index card attached to your survey packet and return it to the researcher. You should expect to find out the results by early October.

Appendix B

The BULIT-R

Answer each question by filling in the appropriate circle on the computer answer sheet. Please respond to each item as honestly as possible; remember all of the information you provide will be kept strictly confidential.

1. I am satisfied with my eating patterns.

    1. agree
    2. neutral
    3. disagree a little
    4. disagree
    5. disagree strongly

2. Would you presently call yourself a "binge eater"?

    1. yes, absolutely
    2. yes
    3. yes, probably
    4. yes, possibly
    5. no, probably not

3. Do you feel you have control over the amount of food you consume?

    1. most or all of the time
    2. a lot of the time
    3. occasionally
    4. rarely
    5. never

4. I am satisfied with the shape and size of my body.

    1. frequently or always
    2. sometimes
    3. occasionally
    4. rarely
    5. seldom or never

5. When I feel that my eating behavior is out of control, I try to take rather extreme measures to get back on course (strict dieting, fasting, laxatives, diuretics, self-induced vomiting, or vigorous exercise).

    1. always
    2. almost always
    3. frequently
    4. sometimes
    5. never or my eating behavior is never out of control

6. I use laxatives or suppositories to help control my weight.

    1. once a day or more
    2. 3-6 times a week
    3. once or twice a week
    4. 2-3 times a month
    5. once a month or less (or never)

7. I am obsessed about the size and shape of my body.

    1. always
    2. almost always
    3. frequently
    4. sometimes
    5. seldom or never

8. There are times when I rapidly eat a very large amount of food.

    1. more than twice a week
    2. twice a week
    3. once a week
    4. 2-3 times a month
    5. once a month or less (or never)

9. How long have you been binge eating (eating uncontrollably to the point of stuffing yourself)?

    1. not applicable; I don't binge eat
    2. less than 3 months
    3. 3 months - 1 year
    4. 1 - 3 years
    5. 3 or more years

10. Most people I know would be amazed if they knew how much food I can consume at one sitting.

    1. without a doubt
    2. very probably
    3. probably
    4. possibly
    5. no

11. I exercise in order to burn calories.

    1. more than 2 hours per day
    2. about 2 hours per day
    3. more than 1 but less than 2 hours per day
    4. one hour or less per day
    5. I exercise but not to burn calories or I don't exercise

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12. Compared with women your age, how preoccupied are you about your weight and body shape?

    1. a great deal more than average
    2. much more than average
    3. more than average
    4. a little more than average
    5. average or less than average

13. I am afraid to eat anything for fear that I won't be able to stop.

    1. always
    2. almost always
    3. frequently
    4. sometimes
    5. seldom or never

14. I feel tormented by the idea that I am fat or might gain weight.

    1. always
    2. almost always
    3. frequently
    4. sometimes
    5. seldom or never

15. How often do you intentionally vomit after eating?

    1. 2 or more times a week
    2. once a week
    3. 2-3 times a month
    4. once a month
    5. less than once a month or never

16. I eat a lot of food when I'm not even hungry.

    1. very frequently
    2. frequently
    3. occasionally
    4. sometimes
    5. seldom or never

17. My eating patterns are different from the eating patterns of most people.

    1. always
    2. almost always
    3. frequently
    4. sometimes
    5. seldom or never

18. After I binge eat I turn to one of several strict methods to try to keep from gaining weight (vigorous exercise, strict dieting, fasting, self-induced vomiting, laxatives, or diuretics).

    1. never or I don't binge eat
    2. rarely
    3. occasionally
    4. a lot of the time
    5. most or all of the time

19. I have tried to lose weight by fasting or going on strict diets.

    1. not in the past year
    2. once in the past year
    3. 2-3 times in the past year
    4. 4-5 times in the past year
    5. more than 5 times in the past year

20. I exercise vigorously and for long periods of time in order to burn calories.

    1. average or less than average
    2. a little more than average
    3. more than average
    4. much more than average
    5. a great deal more than average

21. When engaged in an eating binge, I tend to eat foods that are high in carbohydrates (sweets and starches).

    1. always
    2. almost always
    3. frequently
    4. sometimes
    5. seldom, or I don't binge

22. Compared to most people, my ability to control my eating behavior seems to be:

    1. greater than others' ability
    2. about the same
    3. less
    4. much less
    5. I have absolutely no control

23. I would presently label myself a 'compulsive eater', (one who engages in episodes of uncontrolled eating).

    1. absolutely
    2. yes
    3. yes, probably
    4. yes, possibly
    5. no, probably not

24. I hate the way my body looks after I eat too much.

    1. seldom or never
    2. sometimes
    3. frequently
    4. almost always
    5. always

25. When I am trying to keep from gaining weight, I feel that I have to resort to vigorous exercise, strict dieting, fasting, self-induced vomiting, laxatives, or diuretics.

    1. never
    2. rarely
    3. occasionally
    4. a lot of the time
    5. most or all of the time

26. Do you believe that it is easier for you to vomit than it is for most people?

    1. yes, it's no problem at all for me
    2. yes, it's easier
    3. yes, it's a little easier
    4. about the same
    5. no, it's less easy

27. I use diuretics (water pills) to help control my weight.

    1. never
    2. seldom
    3. sometimes
    4. frequently
    5. very frequently

28. I feel that food controls my life.

    1. always
    2. almost always
    3. frequently
    4. sometimes
    5. seldom or never

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29. I try to control my weight by eating little or no food for a day or longer.

    1. never
    2. seldom
    3. sometimes
    4. frequently
    5. very frequently

30. When consuming a large quantity of food, at what rate of speed do you usually eat?

    1. more rapidly than most people have ever eaten in their lives
    2. a lot more rapidly than most people
    3. a little more rapidly than most people
    4. about the same rate as most people
    5. more slowly than most people (or not applicable)

31. I use laxatives or suppositories to help control my weight.

    1. never
    2. seldom
    3. sometimes
    4. frequently
    5. very frequently

32. Right after I binge eat I feel:

    1. so fat and bloated I can't stand it
    2. extremely fat
    3. fat
    4. a little fat
    5. OK about how my body looks or I never binge eat

33. Compared to other people of my sex, my ability to always feel in control of how much I eat is:

    1. about the same or greater
    2. a little less
    3. less
    4. much less
    5. a great deal less

34. In the last 3 months, on the average how often did you binge eat (eat uncontrollably to the point of stuffing yourself)?

    1. once a month or less (or never)
    2. 2-3 times a month
    3. once a week
    4. twice a week
    5. more than twice a week

35. Most people I know would be surprised at how fat I look after I eat a lot of food.

    1. yes, definitely
    2. yes
    3. yes, probably
    4. yes, possibly
    5. no, probably not or I never eat a lot of food

36. I use diuretics (water pills) to help control my weight.

    1. 3 times a week or more
    2. once or twice a week
    3. 2-3 times a month
    4. once a month
    5. never

Appendix C

SOCIAL ADJUSTMENT SELF REPORT QUESTIONNAIRE

We are interested in finding out how you have been doing in the last *two weeks*. We would like you to answer some questions about york work, spare time and your family life. There are no right or wrong answers to these questions. Check the answers that best describes how you have been in the last *two weeks*.

WORK OUTSIDE THE HOME

Please check the situation that best describes you.

I am
- 1 ☐ a worker for pay
- 2 ☐ a housewife
- 3 ☐ a student
- 4 ☐ retired
- 5 ☐ unemployed

Do you usually work for pay more than 15 hours per week?

1 ☐ YES 2 ☐ NO

Did you work any hours for pay in the last two weeks?

1 ☐ YES 2 ☐ NO

Check the answer that best describes how you have been in the last two weeks.

1. How many days did you miss from work in the last two weeks?
   - 1 ☐ No days missed.
   - 2 ☐ One day.
   - 3 ☐ I missed about half the time.
   - 4 ☐ Missed more than half the time but did make at least one day.
   - 5 ☐ I did not work any days.
   - 8 ☐ On vacation all of the last two weeks.

If you have not worked any days in the last two weeks, go on to Question 7.

2. Have you been able to do your work in the last 2 weeks?
   - 1 ☐ I did my work very well.
   - 2 ☐ I did my work well but had some minor problems.
   - 3 ☐ I needed help with work and did not do well about half the time.
   - 4 ☐ I did my work poorly most of the time.
   - 5 ☐ I did my work poorly all the time.

3. Have you been ashamed of how you do your work in the last 2 weeks?
   - 1 ☐ I never felt ashamed.
   - 2 ☐ Once or twice I felt a little ashamed.
   - 3 ☐ About half the time I felt ashamed.
   - 4 ☐ I felt ashamed most of the time.
   - 5 ☐ I felt ashamed all the time.

4. Have you had any arguments with people at work in the last 2 weeks?
   - 1 ☐ I had no arguments and got along very well.
   - 2 ☐ I usually got along well but had minor arguments.
   - 3 ☐ I had more than one argument.
   - 4 ☐ I had many arguments.
   - 5 ☐ I was constantly in arguments.

5. Have you felt upset, worried, or uncomfortable while doing your work during the last 2 weeks?

   1 ☐ I never felt upset.
   2 ☐ Once or twice I felt upset.
   3 ☐ Half the time I felt upset.
   4 ☐ I felt upset most of the time.
   5 ☐ I felt upset all of the time.

6. Have you found your work interesting these last two weeks?

   1 ☐ My work was almost always interesting.
   2 ☐ Once or twice my work was not interesting.
   3 ☐ Half the time my work was uninteresting.
   4 ☐ Most of the time my work was uninteresting.
   5 ☐ My work was always uninteresting.

WORK AT HOME – HOUSEWIVES ANSWER QUESTIONS 7-12. OTHERWISE, GO ON TO QUESTION 13.

7. How many days did you do some housework during the last 2 weeks?

   1 ☐ Every day.
   2 ☐ I did the housework almost every day.
   3 ☐ I did the housework about half the time.
   4 ☐ I usually did not do the housework.
   5 ☐ I was completely unable to do housework.
   8 ☐ I was away from home all of the last two weeks.

8. During the last two weeks, have you kept up with your housework? This includes cooking, cleaning, laundry, grocery shopping, and errands.

   1 ☐ I did my work very well.
   2 ☐ I did my work well but had some minor problems.
   3 ☐ I needed help with my work and did not do it well about half the time.
   4 ☐ I did my work poorly most of the time.
   5 ☐ I did my work poorly all of the time.

9. Have you been ashamed of how you did your housework during the last 2 weeks?

   1 ☐ I never felt ashamed.
   2 ☐ Once or twice I felt a little ashamed.
   3 ☐ About half the time I felt ashamed.
   4 ☐ I felt ashamed most of the time.
   5 ☐ I felt ashamed all the time.

10. Have you had any arguments with salespeople, tradesmen or neighbors in the last 2 weeks?

1 ☐ I had no arguments and got along very well.
2 ☐ I usually got along well, but had minor arguments.
3 ☐ I had more than one argument
4 ☐ I had many arguments.
5 ☐ I was constantly in arguments.

11. Have you felt upset while doing your housework during the last 2 weeks?

1 ☐ I never felt upset.
2 ☐ Once or twice I felt upset.
3 ☐ Half the time I felt upset.
4 ☐ I felt upset most of the time.
5 ☐ I felt upset all of the time.

12. Have you found your housework interesting these last 2 weeks?

1 ☐ My work was almost always interesting.
2 ☐ Once or twice my work was not interesting.
3 ☐ Half the time my work was uninteresting.
4 ☐ Most of the time my work was uninteresting.
5 ☐ My work was always uninteresting.

FOR STUDENTS

Answer Questions 13-18 if you go to school half time or more. Otherwise, go on to Question 19.

What best describes your school program? (Choose one)

1 ☐ Full Time
2 ☐ 3/4 Time
3 ☐ Half Time

Check the answer that best describes how you have been the last 2 weeks.

13. How many days of classes did you miss in the last 2 weeks?

1 ☐ No days missed.
2 ☐ A few days missed.
3 ☐ I missed about half the time.
4 ☐ Missed more than half time but did make at least one day.
5 ☐ I did not go to classes at all.
8 ☐ I was on vacation all of the last two weeks.

14. Have you been able to keep up with your class work in the last 2 weeks?

1 ☐ I did my work very well.
2 ☐ I did my work well but had minor problems.
3 ☐ I needed help with my work and did not do well about half the time.
4 ☐ I did my work poorly most of the time.
5 ☐ I did my work poorly all the time.

15. During the last 2 weeks, have you been ashamed of how you do your school work?

1 ☐ I never felt ashamed.
2 ☐ Once or twice I felt ashamed.
3 ☐ About half the time I felt ashamed.
4 ☐ I felt ashamed most of the time.
5 ☐ I felt ashamed all of the time.

16. Have you had any arguments with people at school in the last 2 weeks?

1 ☐ I had no arguments and got along very well.
2 ☐ I usually got along well but had minor arguments.
3 ☐ I had more than one argument.
4 ☐ I had many arguments.
5 ☐ I was constantly in arguments.
8 ☐ Not applicable; I did not attend school.

17. Have you felt upset at school during the last 2 weeks?

1 ☐ I never felt upset.
2 ☐ Once or twice I felt upset.
3 ☐ Half the time I felt upset.
4 ☐ I felt upset most of the time.
5 ☐ I felt upset all of the time.
8 ☐ Not applicable; I did not attend school.

18. Have you found your school work interesting these last 2 weeks?

1 ☐ My work was almost always interesting.
2 ☐ Once or twice my work was not interesting.
3 ☐ Half the time my work was uninteresting.
4 ☐ Most of the time my work was uninteresting.
5 ☐ My work was always uninteresting.

SPARE TIME – EVERYONE ANSWER QUESTIONS 19-27.

Check the answer that best describes how you have been in the last 2 weeks.

19. How many friends have you seen or spoken to on the telephone in the last 2 weeks?

1 ☐ Nine or more friends.
2 ☐ Five to eight friends.
3 ☐ Two to four friends.
4 ☐ One friend
5 ☐ No friends.

20. Have you been able to talk about your feelings and problems with at least one friend during the last 2 weeks?

1 ☐ I can always talk about my innermost feelings.
2 ☐ I usually can talk about my feelings.
3 ☐ About half the time I felt able to talk about my feelings.
4 ☐ I usually was not able to talk about my feelings.
5 ☐ I was never able to talk about my feelings.
8 ☐ Not applicable; I have no friends.

21. How may times in the last two weeks have you gone out socially with other people? For example, visited friends, gone to movies, bowling, church, restaurants, invited friends to your home?

1 ☐ More than 3 times.
2 ☐ Three times.
3 ☐ Twice.
4 ☐ Once.
5 ☐ None.

22. How much time have you spent on hobbies or spare time interests during the last 2 weeks? For example, bowling, sewing, gardening, sports, reading?

1 ☐ I spent most of my spare time on hobbies almost every day.
2 ☐ I spent some spare time on hobbies some of the days.
3 ☐ I spent a little spare time on hobbies.
4 ☐ I usually did not spend any time on hobbies but did watch TV.
5 ☐ I did not spend any spare time on hobbies or watching TV.

23. Have you had open arguments with your friends in the last 2 weeks?

1 ☐ I had no arguments and got along very well.
2 ☐ I usually got along well but had minor arguments.
3 ☐ I had more than one argument.
4 ☐ I had many arguments.
5 ☐ I was constantly in arguments.
8 ☐ Not applicable; I have no friends.

24. If your feelings were hurt or offended by a friend during the last two weeks, how badly did you take it?

1 ☐ It did not affect me or it did not happen.
2 ☐ I got over it in a few hours.
3 ☐ I got over it in a few days.
4 ☐ I got over it in a week.
5 ☐ It will take me months to recover.
8 ☐ Not applicable; I have no friends.

25. Have you felt shy or uncomfortable with people in the last 2 weeks?

1 ☐ I always felt comfortable.
2 ☐ Sometimes I felt uncomfortable but could relax after a while.
3 ☐ About half the time I felt uncomfortable.
4 ☐ I usually felt uncomfortable.
5 ☐ I always felt uncomfortable.
8 ☐ Not applicable; I was never with people.

26. Have you felt lonely and wished for more friends during the last 2 weeks?

1 ☐ I have not felt lonely.
2 ☐ I have felt lonely a few times.
3 ☐ About half the time I felt lonely.
4 ☐ I usually felt lonely.
5 ☐ I always felt lonely and wished for more friends.

27. Have you felt bored in your spare time during the last 2 weeks?

1 ☐ I never felt bored.
2 ☐ I usually did not feel bored.
3 ☐ About half the time I felt bored.
4 ☐ Most of the time I felt bored.
5 ☐ I was constantly bored.

Are you a Single, Separated, or Divorced Person not living with a person of opposite sex; please answer below:

1 ☐ YES, Answer questions 28 & 29.
2 ☐ NO, go to question 30.

28. How many times have you been with a date these last 2 weeks?

1 ☐ More than 3 times.
2 ☐ Three times.
3 ☐ Twice.
4 ☐ Once.
5 ☐ Never.

29. **Have you been interested in dating during the last 2 weeks. If you have not dated, would you have liked to?**

1 ☐ I was always interested in dating.
2 ☐ Most of the time I was interested.
3 ☐ About half of the time I was interested.
4 ☐ Most of the time I was not interested.
5 ☐ I was completely uninterested.

FAMILY

Answer Questions 30-37 about your parents, brothers, sisters, in laws, and children not living at home. Have you been in contact with any of them in the last two weeks?

1 ☐ YES, Answer questions 30-37.
2 ☐ NO, Go to question 36

30. **Have you had open arguments with your relatives in the last 2 weeks?**

1 ☐ We always got along very well.
2 ☐ We usually got along very well but had some minor arguments.
3 ☐ I had more than one argument with at least one relative.
4 ☐ I had many arguments.
5 ☐ I was constantly in arguments.

31. **Have you been able to talk about your feelings and problems with at least one of your relatives in the last 2 weeks?**

1 ☐ I can always talk about my feelings with at least one relative.
2 ☐ I usually can talk about my feelings.
3 ☐ About half the time I felt able to talk about my feelings.
4 ☐ I usually was not able to talk about my feelings.
5 ☐ I was never able to talk about my feelings.

32. **Have you avoided contacts with your relatives these last two weeks?**

1 ☐ I have contacted relatives regularly.
2 ☐ I have contacted a relative at least once.
3 ☐ I have waited for my relatives to contact me.
4 ☐ I avoided my relatives, but they contacted me.
5 ☐ I have no contacts with any relatives.

33. **Did you depend on your relatives for help, advice, money or friendship during the last 2 weeks?**

1 ☐ I never need to depend on them.
2 ☐ I usually did not need to depend on them.
3 ☐ About half the time I needed to depend on them.
4 ☐ Most of the time I depend on them.
5 ☐ I depend completely on them.

34. **Have you wanted to do the opposite of what your relatives wanted in order to make them angry during the last 2 weeks?**

1 ☐ I never wanted to oppose them.
2 ☐ Once or twice I wanted to oppose them.
3 ☐ About half the time I wanted to oppose them.
4 ☐ Most of the time I wanted to oppose them.
5 ☐ I always opposed them.

35. **Have you been worried about things happening to your relatives without good reason in the last 2 weeks?**

1 ☐ I have not worried without reason
2 ☐ Once or twice I worried.
3 ☐ About half the time I worried.
4 ☐ Most of the time I worried.
5 ☐ I have worried the entire time.
8 ☐ Not applicable; my relatives are no longer living.

EVERYONE answer Questions 36 and 37, even if your relatives are not living.

36. **During the last two weeks, have you been thinking that you have let any of your relatives down or have been unfair to them at any time?**

1 ☐ I did not feel that I let them down at all.
2 ☐ I usually did not feel that I let them down.
3 ☐ About half the time I felt that I let them down.
4 ☐ Most of the time I have felt that I let them down.
5 ☐ I always felt that I let them down.

37. **During the last two weeks, have you been thinking that any of your relatives have let you down or have been unfair to you at any time?**

1 ☐ I never felt that they let me down.
2 ☐ I felt that they usually did not let me down.
3 ☐ About half the time I felt they let me down.
4 ☐ I usually have felt that they let me down.
5 ☐ I am very bitter that they let me down.

Are you living with your spouse or have been living with a person of the opposite sex in a permanent relationship?

1 ☐ YES, Please answer questions 38-46.
2 ☐ NO, Go to question 47.

38. **Have you had open arguments with your partner in the last 2 weeks?**

1 ☐ We had no arguments and we got along well.
2 ☐ We usually got along well but had minor arguments.
3 ☐ We had more than one argument.
4 ☐ We had many arguments.
5 ☐ We were constantly in arguments.

39. **Have you been able to talk about your feelings and problems with your partner during the last 2 weeks?**

1 ☐ I could always talk freely about my feelings.
2 ☐ I usually could talk about my feelings.
3 ☐ About half the time I felt able to talk about my feelings.
4 ☐ I usually was not able to talk about my feelings.
5 ☐ I was never able to talk about my feelings.

40. **Have you been demanding to have your own way at home during the last 2 weeks?**

1 ☐ I have not insisted on always having my own way.
2 ☐ I usually have not insisted on having my own way.
3 ☐ About half the time I insisted on having my own way.
4 ☐ I usually insisted on having my own way.
5 ☐ I always insisted on having my own way.

41. **Have you been bossed around by your partner these last 2 weeks?**

1 ☐ Almost never.
2 ☐ Once in a while.
3 ☐ About half the time.
4 ☐ Most of the time.
5 ☐ Always.

42. **How much have you felt dependent on your partner these last 2 weeks?**

1 ☐ I was independent.
2 ☐ I was usually independent.
3 ☐ I was somewhat dependent.
4 ☐ I was usually dependent.
5 ☐ I depended on my partner for everything.

43. **How have you felt about your partner during the last 2 weeks?**

1 ☐ I always felt affection.
2 ☐ I usually felt affection.
3 ☐ About half the time I felt dislike and half the time affection.
4 ☐ I usually felt dislike.
5 ☐ I always felt dislike.

44. How many times have you and your partner had intercourse?

1 ☐ More than twice a week.
2 ☐ Once or twice a week.
3 ☐ Once every two weeks.
4 ☐ Less than once every two weeks but at least once in the last month.
5 ☐ Not at all in a month or longer.

45. Have you had any problems during intercourse, such as pain these last two weeks?

1 ☐ None.
2 ☐ Once or twice.
3 ☐ About half the time.
4 ☐ Most of the time.
5 ☐ Always.
8 ☐ Not applicable; no intercourse in the last two weeks.

46. How have you felt about intercourse during the last 2 weeks?

1 ☐ I always enjoyed it.
2 ☐ I usually enjoyed it.
3 ☐ About half the time I did and half the time I did not enjoy it.
4 ☐ I usually did not enjoy it.
5 ☐ I never enjoyed it.

QUESTIONS 47-54 On Next Page.

CHILDREN

Have you had unmarried children, stepchildren, or foster children living at home during the last two weeks?

1 ☐ YES. Answer questions 47-50.
2 ☐ NO. Go to question 51.

47. **Have you been interested in what your children are doing – school, play or hobbies during the last 2 weeks?**

1 ☐ I was always interested and actively involved.
2 ☐ I usually was interested and involved.
3 ☐ About half the time interested and half the time not interested.
4 ☐ I usually was disinterested.
5 ☐ I was always disinterested.

48. **Have you been able to talk and listen to your children during the last 2 weeks? Include only children over the age of 2.**

1 ☐ I always was able to communicate with them.
2 ☐ I usually was able to communicate with them.
3 ☐ About half the time I could communicate.
4 ☐ I usually was not able to communicate.
5 ☐ I was completely unable to communicate.
8 ☐ Not applicable; no children over the age of 2.

49. **How have you been getting along with the children during the last 2 weeks?**

1 ☐ I had no arguments and got along very well.
2 ☐ I usually got along well but had minor arguments.
3 ☐ I had more than one argument.
4 ☐ I had many arguments.
5 ☐ I was constantly in arguments.

50. **How have you felt toward your children these last 2 weeks?**

1 ☐ I always felt affection.
2 ☐ I mostly felt affection.
3 ☐ About half the time I felt affection.
4 ☐ Most of the time I did not feel affection.
5 ☐ I never felt affection toward them.

FAMILY UNIT

Have you ever been married, ever lived with a person of the opposite sex, or ever had children? Please check

1 ☐ YES. Please answer questions 51-53.

2 ☐ NO. Go to question 54.

51. **Have you worried about your partner or any of your children without any reason during the last 2 weeks, even if you are not living together now?**

1 ☐ I never worried.

2 ☐ Once or twice I worried.

3 ☐ About half the time I worried.

4 ☐ Most of the time I worried.

5 ☐ I always worried

8 ☐ Not applicable; partner and children not living.

52. **During the last 2 weeks have you been thinking that you have let down your partner or any of your children at any time?**

1 ☐ I did not feel I let them down at all.

2 ☐ I usually did not feel that I let them down.

3 ☐ About half the time I felt I let them down.

4 ☐ Most of the time I have felt that I let them down.

5 ☐ I let them down completely.

53. **During the last 2 weeks, have you been thinking that your partner or any of your children have let you down at any time?**

1 ☐ I never felt that they let me down.

2 ☐ I felt they usually did not let me down.

3 ☐ About half the time I felt they let me down.

4 ☐ I usually felt they let me down.

5 ☐ I feel bitter that they have let me down.

FINANCIAL – *EVERYONE PLEASE ANSWER QUESTION 54.*

54. **Have you had enough money to take care of your own and your family's financial needs during the last 2 weeks?**

1 ☐ I had enought money for needs.

2 ☐ I usually had enough money with minor problems.

3 ☐ About half the time I did not have enough money but did not have to borrow money.

4 ☐ I usually did not have enough money and had to borrow from others.

5 ☐ I had great financial difficulty.

Appendix D

Dear Research Participant:

You have been recruited to participate in a research study that examines the association between bulimia and social functioning. Your participation in this study will provide important information about the social functioning of women with bulimia. In appreciation of your involvement in this research, the results of the study will be made available to you if you are interested.

As a participant in this research, you will be requested to complete three self-report surveys: (a) a demographic questionnaire, which gathers information such as your age, marital status, occupational status, level of education, weight, height, and weight-related feelings and behaviors; (b) a survey that screens for bulimia; and (c) a survey that assesses your social functioning over the previous 2 weeks. Although there is no set time limit, forty minutes is the average amount of time required to complete the three surveys.

Your participation in this study is **strictly voluntary**. You have the right to refuse to participate in the study and the right to withdraw from the study at any time without penalty. This means that you may withdraw your consent even after signing the consent form.

Please be assured that **your anonymity and confidentiality will be protected**. The surveys will not request you to identify yourself and will only be available to the researcher conducting the study. If you wish to receive the results of the study by mail, you will be asked to write your name and address on an index card, which will be returned separately from your survey packet. This will ensure that your name is not linked to your surveys. No one except the researcher will have access to the mailing card or to this letter. This will ensure that your anonymity is maintained.

You may find that some of the survey questions seem rather personal in nature. You have the right to leave out any questions that you feel too uncomfortable to answer. However, remember that the surveys are anonymous, and all of the information that you provide will be kept in strictest confidence.

This research is being supervised by Dr. Robert Frender and Dr. Rosemary Liburd, professors in the Department of Educational Psychology at the University of Alberta. If you have any concerns about this research and/or your rights as a research participant, please contact Dr. Frender at 492-1160.

In order to make certain that the researcher is conducting the study with your understanding and informed consent, your cooperation in completing the consent form on the following page of this letter would be appreciated.

Sincerely yours,

Crystal R. Coolican
Researcher
Master's of Education Student
Department of Educational Psychology

CONSENT FORM

I, _____ , give my consent to participate in the research study that is investigating the association between bulimia and social functioning.

I understand that my anonymity and confidentiality will be protected by the researcher conducting the study.

I also understand that I have the right to withdraw my consent at any time during the study without penalty.

Signature: _____ Date: _____

Appendix E

Dear Research Participant:

You have been recruited to participate in a research study that investigates the social functioning of women. Your participation in this study will provide important normative data, which will later be compared to data gathered from a group of women with bulimia. In appreciation of your involvement in this research, the results of the study will be made available to you if you are interested.

As a participant in this research, you will be requested to complete three self-report surveys: (a) a demographic questionnaire, which gathers information such as your age, marital status, occupational status, level of education, weight, height, and weight-related feelings and behaviors; (b) a survey that screens for bulimia; and (c) a survey that assesses your social functioning over the previous 2 weeks. Although there is no set time limit, forty minutes is the average amount of time required to complete the three surveys.

Your participation in this study is **strictly voluntary**. You have the right to refuse to participate in the study and the right to withdraw from the study at any time without penalty. This means that you may withdraw your consent even after signing the consent form.

Please be assured that **your anonymity and confidentiality will be protected**. The surveys will not request you to identify yourself and will only be available to the researcher conducting the study. If you wish to receive the results of the study by mail, you will be asked to write your name and address on an index card, which will be returned separately from your survey packet. This will ensure that your name is not linked to your surveys. No one except the researcher will have access to the mailing card or to this letter. This will ensure that your anonymity is maintained.

You may find that some of the survey questions seem rather personal in nature. You have the right to leave out any questions that you feel too uncomfortable to answer. However, remember that the surveys are anonymous, and all of the information that you provide will be kept in strictest confidence.

This research is being supervised by Dr. Robert Frender and Dr. Rosemary Liburd, professors in the Department of Educational Psychology at the University of

Alberta. If you have any concerns about this research and/or your rights as a research participant, please contact Dr. Frender at 492-1160.

In order to make certain that the researcher is conducting the study with your understanding and informed consent, your cooperation in completing the consent form on the following page of this letter would be appreciated.

Sincerely yours,

Crystal R. Coolican
Researcher
Master's of Education Student
Department of Educational Psychology

CONSENT FORM

I, _____ , give my consent to participate in the research study that is investigating the social functioning of women.

I understand that my anonymity and confidentiality will be protected by the researcher conducting the study.

I also understand that I have the right to withdraw my consent at any time during the study without penalty.

Signature: _____ Date: _____

Appendix F

Table F-1

Mean Overall Social Adjustment Scores for Bulimic and Non-Bulimic Subjects Within Each Weight Subgroup

	Weight subgroup		
Group	Underweight	Healthy weight	Overweight
Bulimic[a]			
M	2.6	2.2	2.3
n	5	14	5
Non-bulimic[b]			
M	1.9	1.6	1.3
n	7	17	1

Note. Subjects were categorized into weight subgroups by using the Body Mass Index. A subject was considered of healthy weight if her Body Mass Index fell between 20 and 27. An individual was considered underweight if her Body Mass Index fell below this range, and overweight if it fell above this range. [a]n = 24. [b]n = 25.

Appendix G

Table G-1

Mean Subscale Scores for Bulimic and Non-Bulimic Subjects Within Each Marital Subgroup

Group[a]	Marital subgroup			
	Single	Married	Divorced	Separated
		Overall subscale		
Bulimic				
M	2.4	2.2	2.6	2.1
n	18	5	1	1
Non-bulimic				
M	1.7	1.6	0	2.0
n	21	3	0	1
		Occupational subscale		
Bulimic				
M	1.8	1.9	2.0	1.8
n	18	5	1	1
Non-bulimic				
M	1.6	1.4	0	1.8
n	21	3	0	1
		Social/leisure subscale		
Bulimic				
M	2.6	2.5	2.4	2.4
n	18	5	1	1
Non-bulimic				
M	1.7	1.6	0	2.5
n	21	3	0	1

(table continues)

Group[a]	Marital subgroup			
	Single	Married	Divorced	Separated
	Extended family subscale			
Bulimic				
M	2.5	2.3	3.0	1.9
n	18	5	1	1
Non-bulimic				
M	1.7	1.6	0	1.9
n	21	3	0	1
	Marital subscale			
Bulimic				
M	1.4	2.0	0	0
n	1	4	0	0
Non-bulimic				
M	2.1	1.6	0	1.8
n	2	3	0	1
	Parental subscale			
Bulimic				
M	0	1.2	2.5	0
n	0	3	1	0
Non-bulimic				
M	1.3	0	0	0
n	1	0	0	0
	Family unit subscale			
Bulimic				
M	2.0	2.1	3.7	0
n	5	3	1	0
Non-bulimic				
M	1.5	1.2	0	1.7
n	4	2	0	1

[a] $n = 25$ for each group.

Table G-2

Mean Subscale Scores for Bulimic and Non-Bulimic Subjects Within Each Occupational Subgroup

	Occupational subgroup		
Group[a]	Employed	Student	Not presently employed
	Overall scale		
Bulimic			
M	2.3	2.3	2.5
n	15	4	6
Non-bulimic			
M	1.6	1.7	1.9
n	11	9	5
	Occupational subscale		
Bulimic			
M	1.8	1.8	1.9
n	15	4	6
Non-bulimic			
M	1.5	1.5	1.8
n	11	9	5
	Social/leisure subscale		
Bulimic			
M	2.4	2.7	2.8
n	15	4	6
Non-bulimic			
M	1.6	1.8	2.1
n	11	9	5

(table continues)

Group[a]	Occupational subgroup		
	Employed	Student	Not presently employed
	Extended family subscale		
Bulimic			
M	2.5	2.2	2.5
n	15	4	6
Non-bulimic			
M	1.8	1.5	2.0
n	11	9	5
	Marital subscale		
Bulimic			
M	1.9	2.0	0
n	4	1	0
Non-bulimic			
M	1.8	1.8	1.8
n	3	1	2
	Parental subscale		
Bulimic			
M	1.5	0	0
n	4	0	0
Non-bulimic			
M	1.3	0	0
n	1	0	0
	Family unit subscale		
Bulimic			
M	2.5	1.3	0
n	7	2	0
Non-bulimic			
M	1.5	1.3	1.3
n	4	1	2

[a] $n = 25$ for each group.

Table G-3

Mean Subscale Scores for Bulimic and Non-Bulimic Subjects Within Each Educational Level Subgroup

Group[a]	Educational level subgroup		
	High school	University/college	Graduate school
	Overall scale		
Bulimic			
M	2.7	2.3	0
n	3	22	0
Non-bulimic			
M	1.4	1.7	1.7
n	2	14	9
	Occupational subscale		
Bulimic			
M	1.9	1.8	0
n	3	22	0
Non-bulimic			
M	1.3	1.5	1.6
n	2	14	9
	Social/leisure subscale		
Bulimic			
M	3.1	2.5	0
n	3	22	0
Non-bulimic			
M	1.4	1.8	1.7
n	2	14	9

(table continues)

Group[a]	Educational level subgroup		
	High school	University/college	Graduate school
		Extended family subscale	
Bulimic			
M	2.7	2.4	0
n	3	22	0
Non-bulimic			
M	1.6	1.8	1.5
n	2	14	9
		Marital subscale	
Bulimic			
M	0	1.9	0
n	0	5	0
Non-bulimic			
M	0	2.0	1.6
n	0	3	3
		Parental subscale	
Bulimic			
M	0	1.5	0
n	0	4	0
Non-bulimic			
M	0	1.3	0
n	0	1	0
		Family unit subscale	
Bulimic			
M	0	2.2	0
n	0	9	0
Non-bulimic			
M	0	1.5	1.7
n	0	5	2

[a] $n = 25$ for each group.